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The Journal of Speech and Hearing Disorders

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The Journal of Speech and Hearing Disorders

VOLUME 14 MARCH, 1949 NUMBER 1

RETIRING PRESIDENT AMERICAN SPEECH AND HEARING ASSOCIATION

MARTIN F. PALMER

Resolved: That the American Speech and Hearing Association gratefully acknowledge its abundant debt to its retiring President, Dr. Martin F. Palmer. Over a period of many years he has carried major responsibilities and exercised leadership in promoting the Association's professional growth and refinement. The Association will long continue to reflect the influence of Dr. Palmer's energetic and creative devotion to its obligations and opportunities for ever-expanding public service.

—The American Speech and Hearing Association, in convention at Washington, D. C., December 30, 1948.

RETIRING EDITOR

THE JOURNAL OF SPEECH AND HEARING DISORDERS

WENDELL JOHNSON

Resolved: That the American Speech and Hearing Association express its deep gratitude for the generous, earnest, and intelligent efforts of the retiring Editor of the Journal of Speech and Hearing Disorders, *Dr. Wendell Johnson. His development of a scientific and scholarly journal has provided an essential voice for the field of speech and hearing; clinicians, teachers, and those engaged in research have been guided to improved description of their work, and to more effective expression of their ideas; through this dignified influence the Association has gained greatly in prestige.*

—The American Speech and Hearing Association, in convention at Washington, D. C., Dec. 30, 1948.

(Editor's note: Desiring to pay him special compliment, the Editor could think of no offering more apt than space for some of Dr. Johnson's beautiful writing. To this offer the following was the response, cleanly stating an editor's responsibility, as cleanly voicing his predicament.)

As the retiring Editor of the *Journal* I am pleased indeed to accept the new Editor's invitation to use this space for such remarks as I may wish to make. There are two main sentiments that I have to express. The first is one of deep appreciation of the opportunity I have enjoyed during the past six years to do what I could to develop the Association's publication program. All the members of the Editorial Staff and of the Council have helped tremendously to make the opportunity enjoyable and, I feel, rewarding. To them and to the contributors to the *Journal* as well as to its readers I am warmly grateful. The other chief sentiment I have to express is one of good will and well wishing toward the new Editor, Professor Grant Fairbanks. He is eminently qualified for the assignment, and with anything like the wonderful cooperation and support that I have enjoyed, he will, I am sure, markedly improve the publications of the Association.

The Editor of the *Journal of Speech and Hearing Disorders* is a public servant. He holds in trust the obligation and responsibility of the American Speech and Hearing Association to communicate freely and effectively its special information and intelligence to those who desire its counsel and seek to further its scientific and humanitarian endeavors. He is the servant both of those who, as contributors, serve the *Journal* and of those who, as readers, are served by it. The ideal editor of a professional journal is a curious creation of forces peculiar to our modern democratic and scientific civilization. His activities reflect the scope and character of the interacting freedoms which this civilization, in this country, affords—or enforces. His freedom to initiate policies is balanced by the freedom of his writers to express themselves, and of his readers to seek information, in accordance with their own purposes. His freedom to judge and revise is limited by the counteracting freedom of his colleagues to publish their information and their views within the reasonable bounds of good taste and scientific rigor. Yet, his freedom to withhold judgment is continuously balanced by his obligation to safeguard the reader's legitimate desire to be addressed with due respect, economy and reliability.

Bounded by this 'circle of freedom,' the Editor's activities depend for their fruitfulness upon the spirited cooperation of all who share in them or stand to gain from them. This, experience abundantly proclaims, is a very fine thing for all concerned, most particularly the Editor.

Many thanks—and many good wishes.

—WENDELL JOHNSON

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JOURNAL OF SPEECH AND HEARING DISORDERS, 1949, **14**, 3-8

An Open Letter to the Mother of a Stuttering Child

Wendell Johnson*

(Editor's note: The following 'Open Letter' was originally prepared as a magazine article and was published in the April, 1941, issue of *You and Your Child*. On request, several hundred mimeographed copies were subsequently distributed, chiefly to parents, teachers and speech correctionists. About two years ago the 'Open Letter' was made available in printed form by The Interstate Printers and Publishers, Inc., Danville, Illinois, printers of the *Journal of Speech and Hearing Disorders*. It was later included in the appendix of *Speech Handicapped School Children*, by Johnson, Brown, Curtis, Edney and Keaster, published by Harper and Brothers, New York, in 1948. It is reproduced here, with a few minor revisions, in order to make it readily available to all readers of the *Journal*.)

My dear Mrs. Smith:

I thoroughly appreciate your concern over the speech difficulty of Fred, your four-year-old boy. You say that he is in good health, that he is mentally alert, and is generally normal by any standards you know about. I note that you have been careful not to change his handedness, and that he is now generally right handed. But in spite of all this he stutters.

It will interest you to know that the majority of four-year-old stutterers just about fit that description. I want to say to you very nearly the same things I should say to the mothers of thousands of other 'Freds.' There are some stuttering children who are not like your boy, and their mothers need somewhat different advice. But the 'Freds' make up the majority.

Toward the end of this letter I am going to make a few suggestions which I believe might prove helpful. If you are like other mothers, however, you will want to have these recommendations explained so that you might understand clearly what is back of them. For that reason, I shall introduce the suggestions by giving you certain information.

This information has been obtained in the course of several years of research. Certain investigations of very young stutterers made in the past few years have been particularly revealing. In summarizing the main findings of this research, I shall try to emphasize those points which will help you most to understand Fred's problem.

First of all, I want to put you at ease if I can by stressing that the most recent studies have tended strongly to discredit the popular view, which perhaps you share, that stutterers are generally abnormal or inferior in some very fundamental sense. Concerning this point, I should like to make as clear a statement as possible—and I make it on the basis of over one hundred scientific studies of stuttering in older children and adults, and six recent investigations involving over two hundred young children, stutterers and non-stutterers.

The statement is this. From one to two per cent of school children are classified as stutterers. I think any expert can be quite safely challenged to examine one thousand children who have not yet begun to speak, and to pick out the ten to twenty among them who will be regarded as stutterers five years later. In fact, I should be willing to let the expert examine the children after they had begun to speak but before any of them had come to be la-

*Wendell Johnson (Ph.D., Iowa, 1931) is Professor of Speech Pathology and Director of the Speech Clinic, State University of Iowa.

belled as stutterers. And if he were asked to pick out the ten to twenty who would later be known as stutterers, my best judgment is that he could do little better than make pure guesses, the great majority of which would be wrong. I should not want him to talk with the parents, but he could examine the children as much as he liked in search of the abnormalities that are supposed to cause stuttering.

I should be willing to go even further. I believe any expert can safely be challenged to go into a room in which there are one hundred adult men and women and pick out the ten stutterers whom we shall include in the group. He may use any tests whatever, except that he may not hear anyone speak, nor may he obtain any information about each individual's personality and mental ability so long as this information in any way relates to the question of how the person speaks or used to speak. I should be surprised if the expert could make significantly better selections with his tests than he could by means of eenie-meenie-miniemoe.

In fact, I do not know of any way of examining a child so as to determine, with any degree of certainty, whether he will ever come to be regarded as a stutterer. So far as I know, stutterers generally are not significantly different from non-stutterers aside from their speech, and aside from the way they feel about their speaking experiences. So far as I know, in fact, even the speech of young stutterers is quite normal until they are diagnosed as stutterers.

This last point is particularly important. I mentioned above that recently six studies have been made, involving over two hundred young 'stutterers' and 'normal speakers.' I have had a hand in these studies, and I must say that as the results began to come in we were frankly puzzled. We soon discovered that it was very difficult in most cases—apparently impossible in some cases—to tell the difference between 'normal speaking' children and newly diagnosed 'stuttering' children.

We found, for example, that two-, three-, and four-year-olds—all the children of these ages in a large nursery school, somewhat better than average children by most standards—spoke, on the average, in such a way that one out of every four words figured in some kind of repetition! The whole word was repeated, or the first sound or syllable of it was repeated, or it was part of a repeated phrase. One out of four words was the average; about half of the children repeated more frequently than that. Another way to summarize the findings is to say that the average child makes 45 repetitions per thousand words. This was the average—the norm.

Now, what puzzled us particularly was the fact that, so far as we could determine, the so-called stuttering youngsters were speaking as fluently as that. They were, that is, at the particular moment of the particular day when their parents or teachers first thought of them as stutterers. We were forced to conclude that the stuttering children were not only apparently normal in general, but also that their speech itself was apparently normal at the moment they were first regarded as stutterers. We simply could not escape the fact that, to all appearances, most of the parents of the young stutterers were applying the label 'stuttering' to the same types of speech behavior that other parents were labelling 'normal speech.'

Then the question came up as to whether this could make any difference. Doesn't a rose by any other name smell just as sweet?

Investigation seemed to show that a rose by any other name doesn't smell the same at all. If you call a child a stutterer you get one kind of speech—and personality—development, and if you call him a normal or superior speaker you get another kind of de-

velopment—within limits, but they seem to be rather wide limits.

I can illustrate what I mean by telling you briefly about two cases. The first case is that of Jimmy, who as a pupil in the grades was regarded as a superior speaker. He won a number of speaking contests and often served as chairman of small groups. Upon entering the ninth grade, he changed to another school. A 'speech examiner' saw Jimmy twice during the one year he spent in that school. The first time she made a phonograph record of his speech. The second time she played the record for him, and after listening to it, told him he was a stutterer.

Now, if you have ever tried to speak into a phonograph recording machine you probably suspect what is true. Practically all children who have done this—in studies with which I am familiar—have shown a considerable number of hesitations, repetitions, broken sentences, etc. It is easy to see how the apparently untrained teacher misjudged Jimmy who was, after all, a superior speaker as ninth-graders go.

He took the diagnosis to heart, however. The teacher told him to speak slowly, to watch himself, to try to control his speech. Jimmy's parents were quite upset. They looked upon Jimmy's speech as one of his chief talents, and they set about with a will to help him, reminding him of any little slip or hesitation. Jimmy became as self-conscious as the legendary centipede who had been told 'how' to walk. He soon developed a quite serious case of stuttering—tense, jerky, hesitant, apprehensive speech.

The second case was Gene, a three-year-old boy. His father became concerned over the fact that now and then Gene repeated a sound or a word. Gene didn't seem to know he was doing it, and he wasn't the least bit tense about it. But the father consulted the family doctor and told him Gene was stuttering. The doctor took his word for it. (Practically all stutterers are originally diagnosed by laymen—parents and teachers—and 'experts' almost never challenge the diagnoses!) He told the father to have Gene take a deep breath before trying to speak. Within forty-eight hours Gene was practically speechless. The deep breath became a frantic gasping from which Gene looked out with wide-eyed helpless bewilderment.

These are real cases, and they seem to be fairly representative of stutterers generally. We were exceedingly mystified as our investigations went on and such results as I have sketched kept coming in. Not only were practically all of the stuttering children, *at time of diagnosis,* speaking as well as the normal children, but we could also find no evidence that they had suffered more injuries and diseases, including birth injuries, than had the normal children. Moreover, in spite of the traditonal theory that stuttering usually begins as the immediate result of serious illness, severe fright or shock, and the like, we found that just as an amazing proportion of automobile accidents occur on dry, straight highways, in daylight, in the country, in good automobiles, so most stuttering develops in ordinary homes, under conditions that are not very dramatic, in children who are apparently normal and quite able to speak as well as other youngsters of their age.

These stuttering youngsters were so puzzling just because they were so normal—until we decided to give up the assumption that stutterers are necessarily abnormal. Then the mystery began to lift. Slowly we saw more and more clearly what was staring us in the face. I suspect that we had overlooked it so long—for centuries, in fact—just because it was so obvious.

What we had overlooked, and what we now noticed, was simply that in case after case stuttering, as a serious speech and personality disorder, developed *after it had been diagnosed.* The diagnosis of stuttering is one of the

causes of stuttering, and apparently one of the most potent causes.

I believe I can make this clear and also help you toward an understanding of Fred's problem, if I sketch for you what I should regard as a good method for making practically any child into a stutterer. It is the method used by parents themselves — unintentionally, of course—in bringing about the disorder in their own children. Broadly considered, it is the method commonly used to make children awkward, or timid, or finicky about food, or afraid of the dark or of 'doctors, dogs, deluges and demons.'

Briefly, the method consists of calling a spade a spatula, and then using it as it were one. In order to do this, one must steadfastly ignore the fact that it is more effectively used as a spade, but this does not seem difficult for most of us. Applying this principle then, as the parent of a normal child, you will first of all listen closely for the interruptions in his speech. You will hear many of them.

You must be impressed by these interruptions. Therefore, there are five things that you must quite completely overlook. First, you are not to pay any attention to the circumstances in which the interruptions occur, because if you do the interruptions will seem to be perfectly natural. Second, you are to overlook the fact that for quite some time the child has given ample indication of his ability to speak normally for his age. Third, you must fail to notice that except for the occasional hesitations or repetitions his speech is apparently all right. Fourth, you are not to be impressed by this comparatively normal health, intelligence and social development. And finally, above all, you are not to observe carefully the way other children of the same age speak under various conditions, for if you do your child will seem to be doing nothing out of the ordinary.

It is essential, you see, that you be impressed by what your child seems to be doing wrong. This will make it possible for you to focus your attention more or less completely, not upon the child and not upon his speech, but upon the interruptions in his speech. The next step—*and this is extremely important*—is to select a name for these interruptions. You want to select a name which implies a profound but mysterious abnormality, a name that will fill you with worry and dread every time you utter it or think it. 'Stuttering' is just the name you want.

Having labeled the speech interruptions 'stuttering,' you will react to them as if they were all that the label implies. This will not be difficult. In fact, you will do it quite naturally, without realizing that you are doing it at all. By your very facial expression and your tone of voice, as well as by what you tell the child, you will easily convince him that he is not able to speak normally, or at least that he does not know how to do so, and that you disapprove of his natural best efforts to speak. In your zeal to control what you now call his 'stuttering,' you might even convince the child that you no longer love him, or at least that you are disappointed in him as a person.

For the label 'stuttering' implies that your child needs help and you, of course, will respond eagerly to the task of helping him, because, of course, you love your child. If you are like other parents, you will conscientiously show the child how to inhale and how to exhale, how fast or slow to speak, how to breathe 'with the abdomen' or 'with the chest,' how to place the tongue for certain sounds. You will urge him—perhaps with considerable gusto—to stop and start over, or to 'think out' what he intends to say before he tries to say it. You wouldn't, of course, but some parents might, shall we say, scold him if he does not speak smoothly after all these 'helpful' instructions. By such means you would succeed readily in setting up in the child your

own attitude of anxiety and disapproval when his speech did not proceed smoothly.

As soon as he has acquired this attitude from you he will promptly supplement your efforts to help him with his own ingenious attempts to speak according to the standard of fluency which you appear to demand. He will try hard. He will so want to do the thing properly—so you will smile again, and tell him he is a fine boy. Naturally, he will strain. Of course, he cannot strain without holding his lips together tightly, or holding the tongue against the roof of the mouth, or constricting the muscles of his throat. He cannot strain in certain ways without holding his breath.

The fact that all this will interfere still more seriously with his speech and make him appear to be 'stuttering' much worse—this fact will only spur him on to greater effort and encourage you to be even more generous with your suggestions. You will tell your friends about it and they will also try to help.

In some cases the child finally reaches the point where he is straining practically all the time and so becomes quite speechless. In other cases, however, in spite of all that is done, the child still speaks fluently part of the time.

In saying all this, I have not meant to be at all facetious. On the contrary, I am most serious. I have simply outlined for you what may be regarded as the usual story of how 'stuttering' begins and develops into a serious condition. I believe this information might help you to understand better the problem which you face with Fred. Other factors may be operating in Fred's situation and, if so, the problem will be different accordingly.

If I have outlined then, in the main essentials at least, the problem with which you have to deal, I believe the following suggestions will prove helpful:

1. It is not likely, according to your own statements, that the speech difficulty is due to any physical abnormality, but as a matter of good general policy, you should take Fred to a physician. If there is something physically at fault, whether it has anything to do with his speech or not, it should be given the proper attention.

2. Do absolutely nothing at any time, by word or deed or posture or facial expression, that would serve to call Fred's attention to *the interruptions* in his speech. Above all, do nothing that would make him regard them as abnormal or disgraceful. If he has begun to notice his own interruptions do all you can to convince him they are normal and perfectly acceptable. In this, however, do not make the mistake of 'protesting too much.' You can make him self-conscious about his speech by praising his speech—if you praise it to excess. Try simply not to evaluate his speech at all, and err, if you must, on the side of approving it a bit more than is justified.

3. In order that you may develop for yourself the necessary insight and a proper sense of proportion about Fred's speech interruptions, you should observe carefully (a) the conditions under which they occur; (b) the fact that most of his speech is fluent and always has been so; (c) the fact that he is, generally speaking, a comparatively normal child; (d) the fact that other youngsters of his age are, on the whole, just about as hesitant and repetitious in speaking as he is, especially under certain conditions (when they are 'excited' or talking 'over their heads,' for example); and (e) the fact that even when he does not speak altogether fluently he does not as a rule fail utterly or 'go to pieces'—even his repetitions and 'uh-uh-uh's' are spoken more or less smoothly (or were before and at the time that he was first regarded as a stutterer).

4. Do not label Fred a 'stutterer.'

If you do, you will have an almost irresistible tendency to treat him as if he were as defective and unfortunate as the label implies. It is foolish to risk the probable consequences of this. Instead of saying that he 'stutters,' say exactly what you mean, that under certain conditions (*and describe these specific conditions*) he repeats sounds or words, says 'uh-uh-uh'—or whatever it is he does. This is a matter of such profoundly fundamental importance that I could not possibly emphasize it too much. The way you classify Fred will determine very largely the way you react to him.

5. There are certain conditions under which practically any child tends to speak smoothly and other conditions under which he tends to speak hesitantly. You will find it wise, therefore, to observe the following simple rules:

Give Fred a chance to speak without interrupting him unduly with your own remarks—let him talk when he wants to if you possibly can.

Listen to him as attentively as you would to a respected adult.

See that his brothers and sisters are not always 'bossing' him or not always talking when he wants to talk.

Read to him whenever you can. In reading or speaking to Fred, be calm and unhurried, enunciate clearly and avoid a high, tense voice. Make this reading fun and companionable. Make it a daily routine—preferably just before bedtime—if possible.

Avoid asking Fred to 'speak pieces' for company or to 'show off' in other ways.

Convince him that you love him and that you enjoy hearing him talk. Be his friend.

Don't say, 'No, you can't' or 'Don't do that' where it really wouldn't matter if he did go ahead and do what he wanted to. Try to keep 'Stop that' and 'Don't do that' kind of remarks down to 25% or less of all the things you say to Fred.

Don't keep him in a state of excitement by too much teasing, nagging, bullying, or too much 'running and jumping.'

When you take him to strange places or ask him to do something that is new to him, prepare him for it by explaining ahead of time.

When he is talking 'over his head,' be very patient and now and then supply him with a word which he does not know but which he needs at the moment. To a reasonable extent and in meaningful ways help him add to his vocabulary.

In general, try to avoid situations that are unduly frustrating, exciting, bewildering, tiring, humiliating, or frightening to the child.

My last suggestion may sound quite drastic, but I believe it is within the bounds of reason: Be as friendly and considerate toward your own child as you would be toward a house guest.

Unless Fred's speech difficulty is in some way exceptional, or has developed into a truly serious condition—and unless you have to contend with unduly distressing personal or environmental conditions beyond your control—the suggestions I have outlined should prove genuinely helpful. Do not expect a miracle to happen 'overnight'—and remember that Fred is human. He—and you, or I, or anyone else—will never be as fluent as a faucet. Even the most silver-tongued orator makes an occasional bobble. But if within six months you feel, for any reason, that Fred is not showing as much improvement as he should, I hope you will consult a good speech correctionist — preferably a Clinical Member, or Professional Member, or Fellow of the American Speech and Hearing Association.

With best wishes to you and Fred,

Yours very sincerely,

WENDELL JOHNSON

JOURNAL OF SPEECH AND HEARING DISORDERS, 1949, **14**, 9-15

The Halstead-Wepman Aphasia Screening Test

Ward C. Halstead*
Joseph M. Wepman

THE PURPOSE of the present article is to describe a screening test for aphasia which has found rather wide application in connection with aphasic patients from World War II, but which previously has not been formally announced. Before describing the screening test, certain comments on the general problem of aphasia are in order.

Controversy over the neurological significance of aphasia reached its zenith in intensity at the beginning of the present century with the publication of the famous 'bull in the china shop' rebuttal of the views of Broca and of Wernicke by Pierre Marie (**5**). In the following forty years, neurologists and neuropathologists of many nationalities have concerned themselves with this important problem (cf. **1**, **3**, **4**, **5**, **6**, **7**, **8**, and **10**). The literature of this period reveals evidence that, although controversy has scarcely subsided, only rarely have the earlier levels of acrimony in debate been attained. It is, perhaps, significant that even in recent years the broad area of disagreement has surrounded the question of the localization of the language functions in the brain, rather than the questions of re-educational or therapeutic procedures. These latter simply have not commanded very much systematic attention.

*Ward C. Halstead (Ph.D., Northwestern, 1935) is Professor of Experimental Psychology, Departments of Medicine and Psychology, University of Chicago. Joseph M. Wepman (Ph.D., Chicago, 1948) is Clinical Instructor in Otolaryngology, Department of Surgery, and Lecturer, Department of Psychology, University of Chicago.

It is now generally recognized that the old method of *post hoc* reconstruction of arbitrarily defined language functions from autopsy specimens was subject to serious limitations. There likewise has been a gradual recognition of the need for more precise delineation of the basic language functions in the normal individual and for more rational methods of examination of aphasic patients *ante mortem*. Less well recognized are the need for an integrated theory of the aphasias and the importance of proper methods of examination for establishing a preliminary diagnosis and for planning a rational program of therapy.

Classification of the Aphasic Disorders

Since there is available no generally accepted classification of the aphasic disorders, the present writers have formulated their own. The classification chosen is perhaps most closely related to that proposed by Weisenburg and McBride (**8**). It differs from theirs in two important respects. First, it recognizes global aphasia after Wernicke (**10**) and Pick (**7**), while their classification does not. In global or total aphasia there is literally no direct communication. It must be differentiated from certain forms of schizophrenia with great care. Secondly, their classification recognizes amnesic aphasia, after Pick (**7**) and Goldstein (**1**), as a distinctive type of aphasia, whereas the present authors regard anomia, or loss of ability to recall names *as names*, as a symptom which is commonly associated with either expressive or re-

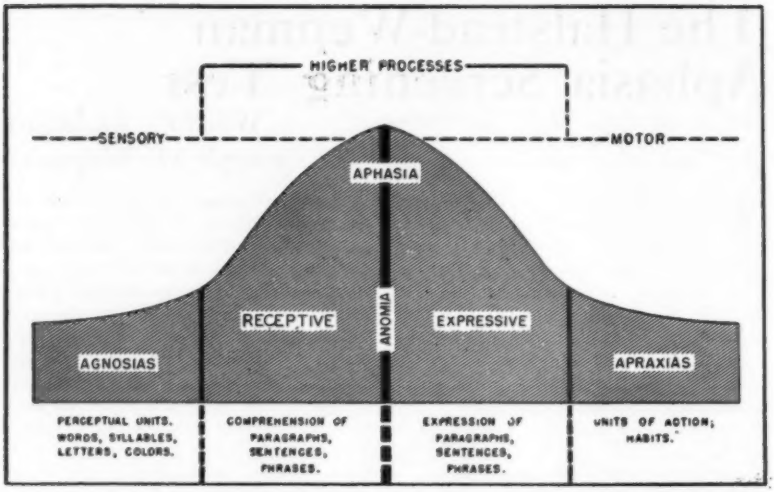

FIGURE 1—Schematic representation of the functional inter-relationships among the aphasias, agnosias, apraxias, and the higher mental processes. From Halstead, W. C., *Brain and Intelligence,* 1947 (**2**). Reproduced with permission of the University of Chicago Press.

ceptive aphasia. It does not help to define the type of aphasia involved *per se* and has no localizing value in specifying site of lesion. The writers share with Weisenburg and McBride belief in the validity of receptive aphasia, expressive aphasia and expressive-receptive aphasia.

For purposes of interpretation and as a basis for a rational therapeutic program, the aphasic disturbances have been categorized into four major groups. The diagnostic categories are: (a) *Global Aphasia,* where literally no direct communication ability is retained; (b) *Expressive - Receptive Aphasia,* where comprehension and expression of language are seriously impaired; (c) *Receptive Aphasia,* where the major difficulty is in the comprehension of language; and (d) *Expressive Aphasia,* where the major difficulty is an inability to produce the desired language. It is believed that each of these major groups requires an individualized or different therapeutic approach. However, the development of this thesis falls outside the scope of the present paper.

Intimately related to the aphasias are the more focal disturbances of language, the agnosias and the apraxias, and the more diffusely integrated higher mental processes. Figure 1 is designed to represent these inter-relationships schematically. It also reflects the authors' view that while the language functions are normally intimately related to the higher mental processes, or ego functions, they may be dissociated from the latter by focal brain damage. Thus an individual may retain his biological intelligence (**2**) and yet at the same time present focal or diffuse signs of aphasic disorder.

THEORY OF THE APHASIC DISORDERS

A four-factor theory of the higher mental or ego functions comprising biological intelligence has recently been set forth by Halstead (**2**). These factors have been designated as an abstraction factor or A, a power factor or P, a central integrative factor or C,

and a directional or modality factor, D. The D factor has been defined as the avenue of experience on the receptive side and as the avenue of exteriorization ('final common pathway') on the expressive side. The C factor has been defined as the *organized* experience of the individual. Since all of the language functions are patently to some extent learned and always involve a particular modality, there is reason to think of them as being related to the C and D factors in biological intelligence. It is not the purpose of this paper to develop here a general theoretical framework for the aphasias. This aspect of the problem is mentioned to emphasize its importance both to meaningful classification and to a rational program for therapy.

Instrumental Aids to Classification and Theory

Numerous techniques have been suggested from time to time for examination of the aphasic disorders, those disturbances of language functions which result from certain types of brain injuries in man.[1] These suggestions have ranged from (a) the brief, informal clinical approach of the conventional neurological examination, and (b) the relatively systematic, though unstandardized, clinical enquiry recommended by Nielsen (**6**), to (c) use of formal tests with prepared materials as employed, for example, by Head (**3**) and by Weisenburg and McBride (**8**). Rarely have two investigators employed comparable methods of enquiry even in the study of patients with comparable brain lesions (for a notable exception cf. **8**). It is not surprising, therefore, that in the literature on aphasia virtually every claim for localization of language functions in the brain remains in dispute. In the hope of directing attention to this fact, as well as to stimulate systematic study of the general problem, a simple screening test for aphasia was developed at the outset of World War II by the first author. It reflected experience with a relatively small but carefully selected group of civilian neurosurgical patients with aphasia, studied as one part of a general research on localization of behavioral functions which has been under way in the University of Chicago Medical School since 1935. With the needs of military personnel in mind, the goal adopted was to produce a screening test for aphasia that would be self-contained as to materials, thus favoring systematic application, easy to apply within a reasonable test period, sufficiently extensive as to the language functions tested, and simple to evaluate as to the results yielded.

The test which resulted consisted of a test-board containing a dial or wheel on which the stimulus figures were printed; a test blank or form, prepared so as to facilitate recording of responses to the stimulus figures; and an instruction booklet containing directions for administration of the test and for interpretation of the results.

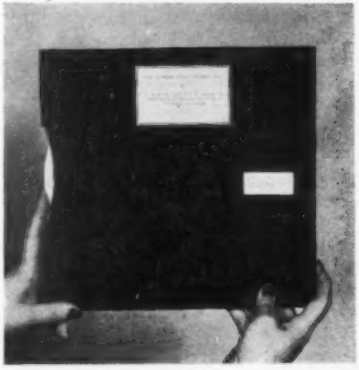

Figure 2. Photograph of the front panel of the test-board used in the Halstead-Wepman. Aphasia Screening Test. Actual dimensions of the test-board are 10×11×¼ inches.

[1] Aphasia is first of all a medical and neurological problem. The test described herein should be employed only after these aspects have been properly evaluated.

The test-board was $10 \times 11 \times \frac{1}{4}$ inches in size, proportions which were found to be optimal for convenience in handling and in carrying. It was constructed of laminated cardboard stock which provided rigid support for the dial carrying the stimulus figures and resembled in appearance the model shown in Figure 2. Two viewing apertures appeared on the front side of the test-board. One exposed an individual stimulus figure of the dial to the patient; the other provided brief instruction to the examiner as to the response or responses to be elicited. Forty responses were to be elicited from a total of thirty stimulus figures distributed on the dial. The responses sampled by the test were distributed as follows: *Naming,* 7 items; *Reading Aloud,* 6 items; *Repeating,* 5 items; *Explaining,* 5 items; *Writing,* 4 items; *Copying,* 3 items; *Spelling,* 3 items; *Computing,* 3 items; *Pointing,* 1 item; *Drawing,* 1 item; *Placing,* 2 items.

A revised model of the test was developed in 1944. The revisions involved a new reading item and improvement of the general printing of the stimulus figures.

Approximately one hundred sets each of the two models were fabricated by hand labor in the laboratory and distributed without charge to interested civilian and military personnel in this country and abroad. From personal communications received from workers in the field, the test has been well received. It was officially adopted by the United States Army in 1945 as a part of the standard aphasia examination. It has been employed as a part of a general research program in the study of more than five hundred patients, and also in a re-education program for aphasics in the Veterans Administration (**9**), and at the University of Chicago Clinics. Several individuals have contributed suggestions for minor changes in the test out of their experience with it in aphasia centers of the Army and of the Veteran's Administration. It had been decided at the outset to withhold publication of the test until such suggestions could be forthcoming and incorporated into a new model.

New Model of Aphasia Screening Test

Test-board. A photograph of the front surface of the test-board of the new model of the test is shown in Figure 2. The dimensions are unchanged from the original model. It may be noted that a single aperture appears on the front of the test-board. The size of this has been increased slightly over the original. It is covered with a transparent plastic which provides protection to the stimulus figures on the underlying dial. Upon rotation of the dial by the examiner, a single stimulus figure appears in the plastic window. The patient is requested to respond to that figure in various ways according to instructions provided for the examiner which appear synchronously in two windows located on the back of the test-board. On certain test items the stimulus is given orally or tactually. Instructions for these items appear in the examiner's windows in proper relation to the rest of the test items. Free edges of the test-board are protected with cloth binding to insure durability.

A sequence of stimulus figures is employed which avoids, where possible, testing of over-lapping functions. Diversification of the test items, with rapid shift from one language function to another, operate to maintain a good level of patient interest. Even with severe aphasics, testing time has not exceeded one hour, and usually requires about thirty minutes. This is true even though the number of test items has been increased from 30 in the original model to 37 in the present model.

Record booklet. An improved record booklet has been developed for use with the test-board. It has been designed so as to provide a permanent record of the examination in convenient form, a simple means for recording specific responses of the patient in

TABLE 1. Outline of test, showing diagnostic categories and number of items devoted to each.

Categories	No. of items	Categories	No. of items
I. Agnosias	53	II. Apraxias	54
A. Visual form	14	A. General	9
B. Visual number	4	B. Verbal	26
C. Visual word	10	C. Graphic	7
D. Visual letter	4	D. Number	4
E. Visual size	1	E. Construction	1
F. Visual space	1	F. Ideo-kinetic	4
G. Visual color	3	G. Calculation	3
H. Audio-visuo-kinetic	1	III. Anomia	12
I. Auditory verbal	7	IV. Dysarthria	5
J. Auditory music	2	V. Paraphasia	8
K. Auditory number	2	A. Paragrammatism	
L. Tactile	2	B. Agrammatism	
M. Body	2		

verbatim form, and a diagnostic profile which summarizes performance on the test.

The test responses permit an analysis of the language act into the categories shown in Table 1 (taken from the *Diagnostic Code* and *Profile* appearing on page 1 of the record booklet). These include thirteen categories on the receptive side and seven categories on the expressive side. In addition, information is made available on the common aphasic disturbances of word-naming (anomia), articulation (dysarthria), and grammatical usage (paraphasia).

Instruction booklet. An instruction booklet giving detailed directions for administration of the test and for interpretation of the results in terms of the authors' experience, accompanies the test.

USES OF THE APHASIA SCREENING TEST

Preliminary diagnosis. There is probably no group of disorders in which it is more important to gain an understanding of the level at which the disturbance arises than the aphasic disorders. Since the patient scarcely can be expected to provide this, it is the responsibility of the examiner to gain this understanding to as complete an extent as is practically feasible. Experience has shown that the outcome of re-educational or therapeutic efforts with aphasic patients is to a considerable extent a function of the *type of aphasia involved*. The aphasia screening test is designed to aid in establishing a preliminary diagnosis or classification of the type of aphasia presented by the particular patient. This diagnosis thus contributes to the formulation of a *rational* program of therapy. The methods by which a more definitive diagnosis may be established have been described by Halstead (**2**).

Planning a therapeutic program. The test has been found to be very useful in planning a rational therapeutic program for the individual patient (**9**). Whether specific agnosias or apraxias are present, a fact which may be quite unknown by the patient, and what modalities of communication are sufficiently intact to provide avenues of therapeutic entry may be ascertained by examination of the test performance. It is most important that a realistic level of aspiration of the patient and of the therapeutist for the therapeutic outcome be established appriate to the stage of therapy. The test has been found to aid the therapeutist in defining the stage of therapy with greater certainty.

Evaluation of progress in therapy. Once a preliminary diagnosis has been established in terms of test performance, the test may be repeated from time to time as a relatively objective check on the progress of the therapeutic program. This check is of equal importance to the patient and to the therapeutist. For the former, it provides a realistic yardstick for his level of aspiration. He has an ever ready standard in reality as to the minimal demands for language performance in the world of practical affairs. Our experience suggests that this can be of considerable importance in the many cases where the family constellation reacts to the patient's impairments with frank hostility or by over-protectiveness. For the therapeutist, the check on therapy provided by the test not only contributes to patient-therapeutist morale, but it serves as well as evidence for continuation or change of the program along rational lines. In further communications projected by the present authors, the use of the test in evaluating the progress in therapy will be set forth more completely with illustrative case histories.

The value of the new model of the test in isolating areas of disability for a preliminary diagnosis and for drawing up a rational program for therapy, is illustrated in the following case histories.

Case History: expressive-receptive aphasia. Mrs. B. C., age 62, sex: female, handedness: right. Presenting neuropathology: aneurysm, post-operative hemiplegia, right; facial paralysis, right. Automatic phrases: 'yes,' 'no.'

Analysis of language disability (six months post-operatively):

Agnosias

Visual form—failed 2 of 14 items.
Visual word—failed 4 and had difficulty on an additional 4 of 10 items.
Visual letter—failed 2 of 4 items.
Auditory verbal—failed 2 and had severe difficulty on 5 of 7 items.
Body—failed 2 of 2 items.

Apraxias

General—failed 3 of 9 items.
Verbal—failed 23 of 26 items.
Graphic—failed 5 and had extreme difficulty on 2 of 7 items.
Ideo-kinetic—failed on 4 of 4 items.
Construction—had extreme difficulty on item.
Calculation—failed 3 of 3 items.

Anomia

Failed 11 of 13 items.

Dysarthria

Failed 3 of 4 items.

Diagnostic category: expressive-receptive aphasia, severe. Greatest areas of difficulty on expressive side in verbal and graphic performance, as well as in calculation and ideo-kinetic abilities; on receptive side, the most severe problems lie in the areas of alexia and in the reception of auditory stimuli.

Therapy: should start on word level (note that there is retained ability in letter recognition, in size and space, color, music, number and tactile receptive areas, both in word recognition and single word production).

A second case history indicates the analysis of a patient showing a different form of aphasia.

Case History: expressive aphasia. Miss T. G., age 23, sex: female, handedness: left. Presenting neuropathology: cerebro-vascular accident localized in left cortex. No physical disability. Automatic phrases: 'all right.'

Analysis of language disability (four months after trauma):

Agnosias

Visual form—failed 1 of 14 items.
Visual word—failed 1 of 10 items.
Visual letter—failed 1 of 4 items.

Apraxias

Verbal—failed 5 of 26 items. Mild delay on 3 others.
Graphic—failed 5 of 7 items.
Construction—failed on item.
Calculation—failed on 3 of 3 items.

Anomia

Failed on 2 of 12 items.

Diagnostic category: expressive aphasia with mild receptive difficulty, especially in the visual sphere.

Therapy: should start in area of expression of language on the sentence or phrase level. Some attention should be given to calculation and construction ability since these are major areas of disability. Visual receptive problem to be considered as it arises in general therapy.

A third case history illustrates still another area of a presenting aphasia in a recent case.

Case History: receptive aphasia. P. C., age 25, sex: male, handedness: right. Presenting neuropathology: encephalopathy, post-traumatic following concussion to the right cerebral hemisphere resulting in contre-coup disturbance in the left pariete-temporal lobe. Focus of disorder determined by electroencephalography and brain surgery. Automatic phrases: 'damn.'

Analysis of language disability (seven months after surgery):

Agnosias

Visual form—failed 6 of 14 items. Difficulty with 4 others.
Visual number—failed 3 of 4 items.
Visual word—failed 10 of 10 items.
Visual letter—failed 3 of 4 items.
Visual color—failed 3 of 3 items.
Auditory verbal—failed 4 of 7 items. Only partial success on other three.
Auditory number—failed 2 of 2 items.
Tactile—failed 2 of 2 items.

Apraxias

Verbal—failed 2 of 26 items.
Calculation—failed 2 of 3 items.

Anomia

Failed 2 of 12 items. Delay manifested on 4 other items.

Diagnostic category: receptive aphasia, severe, with mild expressive signs.

Therapy: should begin on visual recognition at form and letter level. Some immediate attention should also be given to the auditory recognition and perception area. There is sufficient retained ability in the expressive functions so that any attention given to that area can be secondary to the perceptive.

Summary

A screening test for aphasia which is self-contained as to materials, requires approximately thirty minutes to administer, is readily interpreted, and maintains patient interest, is described here for the first time.

A classification of the aphasic disorders which the authors find to be useful both in making a diagnosis and in planning a rational program of therapy is suggested.

Uses of the screening test for aphasia in establishing a preliminary diagnosis and in drawing up a therapeutic program are discussed and illustrated with case histories.

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The Intensity of Oral Responses to Stimulus Words

John W. Black*

IN CLINICAL procedures a word or phrase is frequently 'said back' to the clinician, particularly in the treatment of articulatory disorders. Many other circumstances in communication call for the listener-speaker to repeat what he hears. The loudness with which he performs this routine procedure doubtless results from many habits and conventions. An earlier investigation has shown that the intensity of the repetition is in part determined by the intensity of the heard stimulus when the stimulus words were varied in amplification in 20-25 db steps. In that study (1) the stimuli were spoken by the same voice.

The purpose of the two studies summarized here was to examine the effects upon subjects of hearing different voices and of talking in varying room conditions. Specifically, Experiment 1 was designed to discover whether intensity of oral response varied as a consequence of hearing (1) male and female voices and (2) individuals of the same sex speak the stimuli that were to be repeated, and (3) whether loudness of response was affected by hearing and speaking in a room that was systematically varied among bright-dim-dark degrees of illumination. Thirty male college students served as subjects.

Experiment 2 introduced as additional variables two levels of noise background into the headphones of the subjects, and continued the comparisons between responses to male-female voices and to two levels of intensity of signal. This study was a factorial treatment. Three pairs of experimental variables were counterbalanced in the presentations of the stimuli: high-low signal level (28 and 9 VU), high-low noise level (5 and –8 VU), and male-female voices. Each subject heard eight lists of words. Twenty-four midshipmen acted as subjects.

Equipment

Similar equipment was used in the two experiments. In Experiment 1, the subject sat alone in a small room. By positioning with a headrest, his lips were eight inches from a calibrated microphone that was connected with a General Radio sound level meter in an adjacent room. An operator-monitor had three duties: to operate a phonograph from which the subject heard the stimuli; to record the deflections of the sound level meter that measured the intensity of the subject's responses; and to vary the illumination in the subject's room. The subject heard the stimuli through insert-type, dynamic headphones. Amplification of the stimuli was constant throughout. Three conditons of room illumination were used: dark, half-bright, and bright.

In Experiment 2, the equipment provided for two levels of background noise in the headphone circuit and two levels of amplification of the voice signal.[1] Illumination of the testing room was constant.

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[1]A second microphone was placed directly beside the General Radio microphone. This led to a VU-meter, and permitted the accumulation of two sets of data, and the checking of one against the other. Both groups of data were analyzed with identical results with respect to significant differences.

STIMULI AND MEASUREMENT

Six voices recorded lists of words. Three of the voices were male and three, female. Each read one list of 12 words. The six lists were from a standard intelligibility test and were equated, list by list, for intelligibility under conditions of noise. The readers of the words monitored their intensity by watching a vacuum-tube volt-meter that was connected with the output of the recording amplifier. Words were read at five-second intervals and a 1000-cycle tone was sounded and recorded between successive lists. Two recordings were made simultaneously, one for use in Experiment 1 and the other for Experiment 2. Recordings were cut on the outer four inches of 16-inch discs at 33 r.p.m. with high quality Presto cutters.

Directions for the subjects were included on the same records and thereby presented in the same manner as the stimuli:

> You will hear 72 words broken into lists of 12 words each. The lists are separated by a constant tone like this (tone). All of the words in the lists are familiar ones. Immediately upon hearing a word, please say it. We shall now practice. Remember, as soon as you hear a word, repeat it. "Pad" . . . . "Table" . . . . That's right. You will now hear the 72 words.

In calculations, the median value of the 12 intensity readings from the responses to a single voice was taken as representative of the condition.

Two features of the stimuli became important in the interpretation of the results. The first feature affects both Experiment 1 and 2. An analysis of the intensity levels of the stimuli showed significant differences among the mean intensities of the six speakers. The intensity values were obtained by connecting a General Radio output meter in the subjects' headphone circuit and reading the peak power values (db) of the stimulus words. This check was repeated four times and the mean of the four readings was used for each item. The results of an analysis of variance among the six lists of stimuli appear in Table 1. Obviously the voices were dissimilar (F, 11.60; 1%, 3.37). The six voices, however, fell into three pairs (male-female) within which there were no significant differences; also the means for total male and female voices were not significantly different.

Total male-female: t=.47 (5%, 1.96; 70 d.f.)

Male 1—Female 2: t=1.35 (5%, 2.07; 22 d.f.)

Male 2—Female 1: t=.35 (5%, 2.07; 22 d.f.)

Male 3—Female 3: t=1.07 (5%, 2.07; 22 d.f.)

Likewise it was possible to pair the six voices to provide comparisons be-

TABLE 1. Analysis of intensities of six lists of stimuli used in Experiments 1 and 2 as spoken by six voices, three male and three female.

a. Relative differences in mean intensity among the recorded voices in db. (Order as heard by subjects.)

$Male_1$	$Female_1$	$Male_2$	$Female_2$	$Male_3$	$Female_3$
0	−3	−3	−1	+1	+1

b. Analysis of variance.

Source of Variation	*d.f.*	*Sum of Squares*	*Variance*
Speakers (s)	5	208.34	41.67
Items (i)	11	93.58	
Remainder (sxi)	55	197.57	3.59
Totals	71	499.49	

F, V_s/V_{sxi}=41.67/3.59=11.60 (1%, 3.37; 5 and 55 d.f.)

TABLE 2. Oral responses (repetitions) to word-lists spoken by six voices and heard in varying conditions of room illumination. (N, subjects, 30.)

a. Mean intensity (db from General Radio sound level meter)

Stimulus conditions	*Male*		*Female*		
Light	*Mean*	*S.D.*	*Mean*	*S.D.*	*Over-all mean*
Bright	77.03	4.61	77.83	4.99	77.43
Half-light	77.17	4.29	77.90	4.50	77.53
Dark	77.10	4.48	77.50	4.43	77.30
Over-all mean	77.10		77.74		77.42

b. Analysis of variance.

Source of variation	*d.f.*	*Sum of squares*	*Variance*
Light (l)	2	1.65	.82
Sex (s)	1	18.69	18.69
Subjects (su)	29	3343.91	
l×s	2	1.38	.69
l×su	58	216.36	3.73
s×su	29	65.64	2.26
l×s×su	58	105.29	1.82
Totals	179	3752.91	

F, $V_{s\times l}/V_{s\times l\times su} = .69/1.82$ = less than unity
F, $s/s\times su = 18.69/2.26 = 8.25$ (1%, 7.60, 1 and 29 d.f.)

tween responses to unequal intensities within male-female pairs. (More intense member of the pair, in italics.)

Male 1—Female 1: $t=3.17$ (1% 2.81; 5%, 2.07; 22 d.f.)
Male 2—*Female 3*: $t=4.92$ (1%, 2.81; 5%, 2.07; 22 d.f.)
Male 3—Female 2: $t=2.70$ (1%, 2.81; 5%, 2.07; 22 d.f.)

The second unusual aspect in the presentation of the stimuli occurred in Experiment 2 in which eight conditions were compared from the stimulus recording of six voices and word lists. Thus for each subject the first and last pairs of the eight experimental conditions were tested with the same stimulus lists and voices. For the 24 subjects, each pair of male and female voices was included in these comparable presentations eight times and in the orders *ab* and *ba* four times each. Both anomalies in stimulus materials led to indicative results without seriously affecting the primary comparisons.

RESULTS

The basic results of Experiment 1 appear in Table 2. Three facts stand out: large subject variability, an apparently significant difference between the responses to male and female voices, and the lack of significant difference corresponding with varied conditions of illumination. Evidently, under the experimental circumstances subjects responded equally loudly in the bright, dim, and dark environments. Neither the interaction variance (l×s) nor the variance for *light* equalled in magnitude the triple-interaction variance.

The significance of the difference in responding to sexes, however, is more difficult to assess. The F-ratio (s×l/l×s×su) was somewhat less than significant. Presumably there was no over-all *sex-light* interaction. This justified testing the variance for *sex* against the interaction (s×su), and the resulting F was highly significant.

TABLE 3. Summary of the frequency with which male subjects repeated either male or female signals more intensely when the signals had been paired equally between 'female more intense' and 'female not more intense.' (Method: Chi-square for individuals and for all subjects.)

	d.f.	*Chi-square*	
Individual chi-squares (added)	30	94.43	(1%, 50.89)
Pooled	1	60.27	(1%, 6.64)
Interaction (subtract)	29	34.16	(5%, 49.59)

There remains, however, the problem posed by the fact that the six stimulus voices were dissimilar in intensity. Increments in the intensity of stimuli of an order of 20 db are known to affect intensity of responses. If this relationship obtains for differences of three db, the significant F in this comparison could result from unlike intensity levels of stimulus voices.

The tentative conclusion is advanced that the subjects did respond disproportionately more intensely to the female than to the male voices apart from reactions to mean intensities of stimuli. An analysis was made of the responses of each subject to the 72 individual stimuli. It will be remembered that the stimulus voices could be paired (male-female) in combinations in which the members were not different in mean intensity, and that each voice was represented by 12 items. For the present analysis, the stimulus items for these voices were paired in such manner that the female was the more intense in half of the pairs, i.e., six of the 12. Responses to paired items were checked with the criteria 'female more intense' and 'female not more intense.' Chi-square was computed for each subject and the 30 individual results summated. A summary appears in Table 3. First, the total chi-square was highly significant. Second, chi-square for the pooled data was highly significant. Third, the interaction or heterogeneity chi-square was non-significant. In keeping with this fact, 26 of the 30 subjects, in a majority of instances, responded more intensely to the 'female members' of the paired items. A second observation: the subjects heard the sexes alternately—male-female, etc. Each female voice was responded to with greater intensity than the preceding male voice: 0, .8; 0, .6; 0, .5 db (only the difference in the first pair is significant). In the stimuli only the second pair of speakers had a comparable relationship, and in the first pair the male voice was significantly more intense than the female. Also in the stimuli, Female 1 was not different in intensity from Male 2. The subjects, however, responded significantly more intensely to the female voice. The possibility arises that subjects respond more intensely to voices of higher pitch—at least when higher-lower voices are heard alternately.

The question was posed earlier, Do differences in intensity of stimuli of 3-4 db affect intensity of responses? In this experiment, with the means of the stimuli from three male voices varying in these amounts, the means of the intensity of the responses did vary significantly and followed the pattern of the stimuli.[2]

A similar relationship was not pres-

[2]The means of intensity of responses to the six voices (in order of presentation) were: 77.5, 78.3, 76.4, 77.0, 77.4, and 77.9 db. An analysis of variance of the responses to the different voices(V *speakers*/V *speakers* × *subjects*) resulted in a significant F, 5.59 (1%, 3.14; 5 and 145 d.f.).

Stimulus (mean)	*t*	*Response (mean)*	*(diff.)*
$Male_1 - Male_2 = 3$ db	3.15 (1%, 2.81)	$Male_1 - Male_2 = 1$ db	3.32 (1%, 2.76)
$Male_2 - Male_3 = 4$ db	4.41 (1%, 2.81)	$Male_2 - Male_3 = 1.5$ db	2.86 (1%, 2.76)
$Male_1 - Male_3 = 1$ db	1.24 (5%, 2.07)	$Male_1 - Male_3 = .4$ db	.87 (5%, 2.05)

ent between the relative intensity of the stimuli of the female voices and the responses. An analysis of variance testing the hypothesis that a curve of over-all response means (intensity) followed the pattern of the stimulus means resulted in a highly significant F, making the hypothesis improbable.

Table 4 summarizes the results of Experiment 2—the factorial treatment of the effects upon intensity of oral response of *sex*, *noise-background* and *signal-level* variations in the stimulus conditions. Since all of the interaction values (variance) in Table 4b were small, they were combined as shown in Table 4c with the possibility of using the combination value as the *error* term. The heterogeneity among subjects shown in the large *within-group* variance made it necessary to use *subjects* variance as the error term in the computations of F. No interaction was significant, and of the main effects, only differences between signal levels were significant. That the two intensity levels of stimuli were responded to differently (the louder the stimulus, the louder the response) is in keeping with the results of other studies of this type.

Within the gross limits examined, the signal-to-noise ratio did not affect the intensity of the subjects' speech. This ratio, as well as strength of voice signal, is crucial in determining intellegibility. By definition, as voice signal is increased with background noise constant, the ratio is improved. Evidently, within a non-critical range, only the strength of the signal, not the amount of background noise, affects the loudness with which a listener responds to a heard stimulus. It is noted that although the ratios were markedly different in these comparisons, the signal was always clearly understandable above the noise. The only interaction variance in Table 4 of disproportionate magnitude is nl×sl. The four means in parentheses in Table 4a explain this value somewhat. From the means it is observed that responses to low signals were slightly higher when high noise rather than low noise was in the headphones; and to high signals, *vice versa*. A sub-analysis was made with *noise level* and *subjects* as main effects. *Noise level* variance was not significant.

Finally, sex of the speaker which has differentiated mean responses in Experiment 1 was apparently not significant in the circumstances of this study. (A chi-square test similar to the one performed with the data of Experiment 1 was inconclusive.) However, a separate analysis of variance was made of the data representing *sex*, *subjects*, and *signal level*. The fairly uniform S.D.'s (Table 4a) made it improbable that *subjects* variance was unequally distributed among the basic conditions. The separate analysis is inconclusive in this regard.

	d.f.	*Variance*
Sex (s)	1	10.68
Signal (si)	1	1000.55
Subjects (su)	23	95.33
s × si	1	.92
s × su	23	1.78
si × su	23	7.88
s × si × su	23	10.55

From the values shown here there was obviously no significant interaction in the ratio s×si/s×si×su. This permitted testing s/s×su in which instance F, 6.00, was significant (5%, 4.28). One further detail indicates the advisability of conservatism in the interpretation of this result (or the comparable value that would be obtained from the data of Table 4c through using the combined interaction value as

TABLE 4. The effect upon spoken responses of stimuli heard from male and female voices at two levels of loudness and in the presence of two in-circuit noise levels. (Stimulus materials, words. N, subjects, 24.)

a. Mean intensity in db from General Radio sound level meter. (Values in parentheses indicate means of adjacent means. S.D.'s for eight basic observations, in brackets.)

	High noise		*Low noise*		*Signal*	*Over-all (signal)*	*Combined*
High signal							
Male	74.91	[3.76]	75.06	[3.69]	74.99		
	(75.17)		(75.43)			75.30	
Female	75.42	[4.43]	75.80	[3.80]	75.61		
							73.02
Low signal							
Male	70.66	[3.38]	70.48	[3.52]	70.57		
	(70.85)		(70.63)			70.74	
Female	71.04	[3.01]	70.77	[3.93]	70.90		
Noise							
Male	72.79	(72.78)	72.77				
Female	73.23	(73.26)	73.29				
Over-all (noise)	73.01		73.03				
Combined		73.02					

b. Analysis of variance.

Source of variation	*d.f.*	*Sum of squares*	*Variance*
Main effects:			
Noise levels (nl)	1	.02	.02
Signal levels (sl)	1	1000.55	1000.55
Sex (s)	1	10.68	10.68
First order interaction:			
nl × sl	1	3.03	3.03
nl × s	1	.06	.06
sl × s	1	.93	.93
Second order interaction:			
nl × sl × s	1	.25	.25
Within groups (subjects)	184	2654.08	14.42
Total	191	3669.60	

c. Summary of analysis (with interactions combined).

Source of variation	*d.f.*	*Sum of squares*	*Variance*
Noise levels (nl)	1	.02	.02
Signal levels (sl)	1	1000.55	1000.55
Sex (s)	1	10.68	10.68
Interaction (i)	4	4.27	1.07
Subjects (su)	184	2654.08	14.42
Totals	191	3669.60	

F, $V_{sl}/V_{su} = 1000.55/14.42 = 69.39$ (1%, 6.78; 1 and 184 d.f.)

an error term). An anomalous feature in the comparison of the effects of male-female voices upon intensity was in combination with a possible order effect. As explained above the two final conditions for each subject, Conditions 7-8, involved his hearing the same recordings that he heard in Conditions 1-2. Voices, orders, and experimental variables were equally represented in these conditions. There was no consistent or important difference between the intensity of responses to male-female voices. However, when the stimuli occurred in Conditions 7-8, the female voice elicited highly significantly greater mean intensities of response.

Summary

Two experiments measured and compared the intensities of oral responses to heard stimuli that represented different voices. In both instances, the subjects tended to respond disproportionately loudly to female voices, although a final generalization about this awaits more exhaustive experimentation. This will have to consider the possibility that heard pitch affects a listener-speaker's loudness in repeating messages. The intensity with which subjects repeated words was not affected by the amount of light in the room in which each listener-speaker sat. In both experiments the subjects responded with more intensity when they heard intense stimuli than when they heard soft ones. Finally, the level of background noise—within the limits investigated—did not affect the speaker's responses to heard stimuli. The possibility remains, of course, that were the background noise and the voice signal of about the same intensity, the voice of the listener-speaker might be affected.

At least in communication over electrical equipment such as telephones, the intensity of the speaker's voice can be expected to influence the intensity of the listener-speaker's response. There is little reason to suppose that the effect cannot be applied to face-to-face talking in a clinic.

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Hoarseness and Voice Change in Male Adolescents

E. Thayer Curry*

THE PURPOSE of this article is to review the question of 'hoarseness' as a manifestation accompanying change of voice in the male adolescent. The author presents herewith the very divergent views and observations which have been reported in the literature, both English and German. Investigators have used both laryngoscopic and perceptual methods of observation.

This author has previously summarized many of the general problems of voice change (**2**). A statement of the relationship of hoarseness to change of voice as it is usually regarded follows:

> Voice change has long been evident, especially to teachers of speech and music, because of distinctive perceptual deviations from the normal voice pattern. These deviations have been reported by Calver, Henley, Hipsher, Jerome, McCarthy, Negus, and Seth and Guthrie. These observers were primarily impressed by the loss of vocal control and general instability of the voice undergoing change. (**2**, 795)

These deviations have been presented by Jerome in a most picturesque and highly accurate description:

> Change of voice may be technically described as a normal loss of control of voice, occupying an undetermined length of time in the pre-adolescent stage or during some period of adolescence. The loss of control is usually evidenced by instantaneous, unpredicted and involuntary changes of pitch, the reasons for which are not readily apparent. Occasional concomitants of this loss of control of the voice are double resonance, restricted range of pitch and the appearance of a tremelo. (**6**, 649)

Several writers in the literature have attempted to describe the signs which precede the period of the voice change. Whether these are concomitant with or actually precede the change is a matter that has not been demonstrated. Seth and Guthrie report the results of laryngeal examination:

> The first sign of the change of voice at puberty is a slight huskiness due to imperfect closure of the posterior part of the glottis. If the larynx be examined one may see, not only this gaping, but also the swelling and redness of the laryngeal mucosa and a slight coating of mucus which may lead to the erroneous diagnosis of laryngitis. (**9**, 200)

The same authors go on to state some of the more general aspects of the period of voice change:

> Just after the pubertal change has begun the voice is often excessively responsive to changes in the general physical or mental condition. As G. S. Hall points out, it "reflects the general tone, mood, sentiment, feeling, and state of health as at no other age of life." (**9**, 203)

Another investigator, McCarthy, reports his investigations:

> Just before the huskiness which precedes the actual break, the boy's voice frequently takes on a sort of metallic ringing clearness which is very pleasing if the tone is not forced. (**7**, 24)

The symptoms, including hoarseness, which it is alleged precede change of voice, have been summarized by Mellalieu:

> What we hear at the changing period is a change of quality and pitch. . . . The symptoms of the changing period are many. From the vocal point of view the commonest signs are:
>
> 1. The speaking voice becomes husky and lacking in control. The singing voice may be affected in the same way.

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2. Sometimes the lower portion becomes weak and uncertain, but the upper portion remains unaltered for a time.
3. The speaking voice begins to get much heavier in tone, the light boyish quality gradually disappearing.
4. The higher notes disappear or become difficult (notes above E flat, fourth space, treble clef), followed later by notes above B flat, but the lower portion in most cases remains and even improves in tone quality. (8, 11)

IN the German literature, Flatau and Gutzmann, Weinberg, Froeschels and Hell have dealt with the question of relative hoarseness and clarity of the conversational voice. Flatau and Gutzmann reported (3) that only 236 out of 575 examinees demonstrated a clear, hoarse-free, conversational voice. These investigators found a chronic hoarseness in 42% of the 575 boys examined. The individuals examined by these German scholars ranged from seven to 15 years of age. Two definite peaks of hoarseness were evident from these investigations. The first peak was at age seven, where 66% of the subjects exhibited the symptom; the second peak showed 58% of the boys with hoarseness at ages 13 and 14. Among these boys the incidence of hoarseness decreased rapidly from age seven to age nine; the manifestation then increased in occurrence until the period of the second peak in the 13-14 year groups.

Weinberg also reported (10) a high percentage of hoarseness in 800 children examined. Only 278 of his subjects (34.7%) had a clear conversational voice. Two hundred fifteen were diagnosed as 'hoarse' and 307 as 'slightly hoarse.' Only 29.5% of the boys had clear voices, while among the girls 40.0% had clear speech. Weinberg made the diagnosis of chronic hoarseness only after a laryngoscopic examination. He called chronic only those cases which presented a true chronic change, i.e., a swelling and redness of the mucous-membrane existing for a long period, diffused thickening and singers-knots at the rims of the vocal cords. Not every case of redness of the cords was labelled acute laryngitis. Such a redness often occurs in the child as well as in the adult and can not always be regarded as laryngitis.

According to Froeschels (4), the conversational voice was hoarse in most of the cases examined. Froeschels and Weinberg are not in agreement on the diagnosis of hoarseness. Weinberg stated that only the laryngoscopic finding can decide whether a condition labelled hoarseness is acute or chronic. Froeschels emphasized, on the other hand, that there is an organic and a functional hoarseness and that when the laryngoscopic finding excludes an acute cold that it is by no means certain with which sort of chronic hoarseness one is dealing. Froeschels pointed out that there were manifold types of functional hoarseness which accompany completely normal anatomical conditions. It is his view that laryngoscopically determined changes still do not prove that an organic hoarseness exists. A chronic, functional hoarseness might be obscured by an acute hoarseness.

Froeschels therefore maintains that it cannot be determined by reflecting the larynx of each hoarse child (as Weinberg had suggested) whether an organic or functional hoarseness exists. According to him, only treatment can answer this question clearly. When a hoarseness disappears through general exercise and treatment only, without local treatment, then it has been reasonably demonstrated that a functional hoarseness is present (i.e., one which has been caused by a misuse of the vocal tools). Froeschels did examine laryngoscopically 380 children above ten years of age; he found chronic organic hoarseness in only about one-half of one per cent of the subjects examined.

Flatau-Gutzmann found an increase in hoarseness in the years of the change of voice. Froeschels' results

show exactly the opposite conclusion. Only a very few of his boys had a 'strong' degree of hoarseness, while all the others cited have only a very slight hoarseness.

Yet among the smaller children there were numerous cases (no specific number or per cent cited) of 'profound' hoarseness so that the plotted curve at all ages above age eleven indicates a relatively lower incidence if we take into account the degree of this vocal defect.

According to the assumptions of most authors, as Froeschels states, whereby the chronic hoarseness is attributed to pressure on the vocal muscles, and since on the other hand the tension of the inner laryngeal-muscles becomes less during the change of voice, it seems probable that the functional hoarseness becomes more rare or weaker during the change of voice. Froeschels is in accord with this view—but Weinberg and Flatau-Gutzmann again dissent. According to Froeschels the decrease in functional hoarseness above age eleven is due to the effect of the beginnings of the change of voice.

F. J. Hell reported (5) his observations on the voices of 44 choir boys of the 'Regensburger Domspatzenchor,' between the ages of ten and fourteen. His subjects included: three, age 10; six, age 11; 13, age 12; 13, age 13; nine, age 14. Hell reported careful studies on the weight, size, details of heredity, special characteristics, speaking and singing voices, physiological and musical extents of the voices, and register of the voice. Of especial interest is the extensive range of these voices and the very low number of 'throaty and hoarse' voices reported by this investigator.

The present author has examined the voices of 80 boys; 40, age 10; 40, age 14. This was done in connection with a study previously reported (1). It was the considered judgment of three trained speech correctionists that 55% of the 10 year old subjects and 80% of the 14 year old subjects would be diagnosed as 'hoarse-husky' in voice quality. All other voices were diagnosed as having normal voice quality.

Thus, in summary, the observations reported in the literature present a somewhat contradictory and incomplete picture of hoarseness as a manifestation accompanying change of voice in the male adolescent. The unanswered question here pictured—especially considering the whole area of functional problems posed by Froeschels—should offer a very ripe field for further investigation along both laryngoscopic and perceptually diagnostic lines.

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Auditory Deficiency and Academic Achievement

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Frank W. Finger

THE educational adjustment of the hard-of-hearing child is a matter of concern both to the clinical psychologist and to the pedagogue. Adequate treatment of the handicapped pupil is a prime necessity if the number of personality deviates and vocational misfits in our society is to be kept to a minimum. But the prerequisite to the intelligent management of the problem is a fund of objective and reliable data, secured from a wide variety of population samples. What is the incidence of the varying degrees of hearing defect? What is the relation of decreased auditory acuity to such other functions as learning capacity, personality, and speech skills? What is the typical effect of subnormal hearing upon scholastic achievement, and what procedures can modify it?

A number of investigations have supplied partial answers to these questions, but in many instances lack of common or standard measures has rendered evaluation difficult. For example, the frequency of hearing loss among elementary school children has been reported as ranging from less than 5% to 40% (**1, 4, 8**), the variability due in part to differences in method of examination. At the same time the relative intellectual status of the hard-of-hearing child seems to depend upon the test utilized, with scores on verbal tests (e.g., National Intelligence Test, Stanford-Binet) running consistently lower than scores on tests which minimize verbal facility. The quantification of school progress, apart from the often arbitrary criterion of grade placement, is still another item demanding careful attention. The need for further work is evident.

The principal question orienting the present research concerns the academic achievement of the hard-of-hearing pupil in a rural community. Previous studies involving instrumental measurement of hearing loss have reached divergent conclusions, depending on the measure of achievement used and the method of intelligence control adopted. Several investigators (**1, 7, 8**), comparing the grade placement of normal-hearing and hard-of-hearing children, have found a relative retardation of the latter group averaging around 0.4 to 0.7 school years. On the other hand, with groups equated in score on verbal intelligence tests, no significant difference in performance on standardized achievement tests or in educational quotient was found (**3**). However, the nature of the tests used in the matching of intelligence levels necessitates some qualification of these results. Both the Stanford-Binet and the National Intelligence Test depend for their optimal performance on language facility, and the hard-of-hearing child, presumably with some degree of verbal handicap, may actually possess a higher

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level of intelligence than such a test could reveal. The pairs of 'matched' children may thus be mismatched in favor of the hard-of-hearing, who might therefore perform in school better than would be predicted on the basis of uncorrected IQ and hearing deficit. The plan of our investigation for this reason included a matching of normal-hearing and hard-of-hearing pairs on the basis of a non-verbal test of general ability or intelligence. With this precaution observed, it can be demonstrated that the handicapped pupils in this sample score lower on the Stanford Achievement Test than do their normal-hearing controls.

Procedure

Subjects. This study involved 692 pupils in grades three through seven in five elementary schools of Louisa County, Virginia. These children formed a relatively homogeneous group with respect to socio-economic and cultural level, the majority coming from rural homes.

Audiometric measurement. To select those pupils exhibiting significant hearing loss, four successive procedures were followed. The first step was a preliminary screening test, given in the classroom, with the Western Electric 4-A phonograph audiometer. This test requires the subject to record numbers spoken by a male and by a female voice in a regularly decreasing loudness series. The numbers are presented to the subject by means of an individual earphone. Those pupils found to have a hearing loss of at least nine decibels in either ear were given a retest, using the same method. If on the second test a similar loss was recorded, a pure tone sweep check was given. The children were tested individually for their response to frequencies of 128, 256, 512, 1024, 2048, 4096, and 8192 cycles per second at 15 decibels above normal threshold (Maico D-5 pure tone audiometer). For those pupils responding to less than six of the seven frequencies in either ear at this intensity level, more precise threshold measurements were made. Those individuals whose average hearing loss for frequencies 512, 1024, and 2048 c.p.s. was more than 10 decibels in the better ear were considered for purposes of this study to be hard-of-hearing.

In the pure tone tests every effort was made to minimize extraneous noise. In three of the schools the testing was done in a building apart from the main schoolroom building, and in the two schools where the testing was conducted in the school building, the classrooms adjacent to the testing rooms were vacated, and testing was suspended during changes of classes and recess periods.

Measurement of 'General Ability.' A few weeks after the conclusion of the hearing tests, the IQ's of the total available population were determined under the supervision of the junior author. In grades four through seven the non-language series of the Pintner General Ability Test (composed exclusively of diagrammatic material) was used. Because the lower standardized limit of this test is the fourth grade, the third-grade pupils were tested with the Pintner-Durost Elementary Test, verbal series. This series consists of two parts: (a) picture content, composed of pictures which the child marks in answer to questions read by the teacher, and (b) reading content, made up of items the answers to which are dependent upon reading ability. In order that the hard-of-hearing pupils should not be handicapped in their test performance, they were seated at the front of the room and special care was exercised to insure their understanding of the oral instructions.

The Measurement of Achievement. Although the age-grade placement records were available, it was felt that the use of a standardized test of academic achievement was highly desirable in the determination of the influ-

TABLE 1. IQ's of Normal-Hearing and Hard-of-Hearing Pupils.

Grade	Test	Normal-hearing N	Normal-hearing Mean IQ	Hard-of-hearing N	Hard-of-hearing Mean IQ	Diff.	t	P
3	Pintner-Durost Elementary Test, verbal series	141	86.22	11	78.82	7.40	1.79	.08
4-7	Pintner General Ability Test (non-language series)	412	86.95	30	84.27	2.68	1.01	.4–.3

ence of hearing loss on school learning. Therefore, after several more weeks the Stanford Achievement Test, partial battery (paragraph meaning, word meaning, language usage, arithmetic reasoning, arithmetic computation, and spelling) was given to all the pupils.

To compare the achievement scores of the hard-of-hearing and the normal-hearing children, 28 of the 32 children with deficient hearing in grades four through seven were paired with 28 normal-hearing controls, with score on the non-language general ability test, age, number of years in school, and sex equated as closely as possible.[1] Of the 14 third-grade pupils with hearing deficiency, only eight could be matched satisfactorily with normal-hearing controls. For each of the matched pairs the difference in the total score and the differences in the sub-test scores on the achievement test were determined, and each of the seven sets of differences summated algebraically and examined for reliability.

[1]Of the four subjects eliminated, three had left school before the testing was completed, and one subject could not be matched adequately with a normal-hearing child. The maximum IQ difference in any matched pair was 3 points, and the mean IQ's of the two groups differed by less than one point. In 25 of the pairs there was no more than five months difference in chronological age. In the three instances of greater deviation, the mental age difference was only four months. In all cases the sex and number of years in school were the same for the members of the pair.

RESULTS

Audiometric Measurement. Of the 692 individuals in the total sample, 46 (6.6%) were revealed by the pure tone tests to have defective hearing, i.e., for each of these children the average loss in the better ear for the frequencies of 512, 1024, and 2048 c.p.s. was more than 10 decibels. The deficit amounted to 11-24 decibels in 24 children (3.5%), 25-44 decibels in 18 (2.6%), and 45 decibels or more in four (0.6%). There were a few more girls (25 of the total 332, or 7.5%) than boys (21 of the total 360, or 5.8%) diagnosed according to the 10-decibel criterion as hard-of-hearing. All four of the cases with more than 44-decibel loss were girls. The smallest proportion of hearing defect was found in the fifth grade (2.8%), and the greatest number, both absolutely and relatively, in the fourth grade (17 or 11.8%). Contrary to the trend of certain previous studies (e.g., 5), the left ear was the more defective in 65% of the hard-of-hearing subjects.

Measurement of General Ability. Since the test of general ability given in the third grade was different from that used in the higher grades, the data from the two tests were not combined. The average IQ's of the normal-hearing and of the hard-of-hearing groups, together with an evaluation of the differences, are given in Table 1.

It will first be seen that the average intelligence of this rural sample is be-

low the average expected in a public school population. It is interesting to note that this is true with both measuring devices; the two normal-hearing groups have virtually identical average IQ's. A comparison of the two third-grade groups reveals that the mean IQ of the children with impaired hearing was 7.4 points lower than that of the normal-hearing children, this difference approaching statistical significance. It should be emphasized that these pupils were tested on the Pintner-Durost Elementary Test, verbal series. On the non-language Pintner General Ability Test, the hard-of-hearing children of grades 4-7 performed considerably better, so that they scored only 2.68 points lower than their classmates with normal hearing. This latter difference is too small to have statistical significance.

To discover any possible relationship between degree of hearing loss and intelligence quotient on the non-language test, a rank-difference correlation between these two measures was computed for 30 of the defective-hearing pupils. The coefficient was found to be $-.12 \pm .12$: there was no significant tendency for the more severe hearing losses to be associated with the lower IQ's.

Measurement of Academic Achievement. Two kinds of measure of school progress were available—grade placement in relation to number of years in school, and score on the Stanford Achievement Test. Promotion from grade to grade, of course, depends upon many factors other than the actual grasp of the subject matter. Further, it is too gross a measure, particularly in the primary grades, to reveal small differences in achievement. It is worthy of note, however, that while the average grade retardation of 631 normal-hearing pupils was 0.77, the corresponding figure for 41 hard-of-hearing children was 0.95. It was found that 48% of the normal-hearing students had repeated at least one grade, while 59% of the hard-of-hearing had repeated one or more grades.

A more dependable and meaningful measure of the effect of hearing loss on academic achievement is the standardized test score. In the first place, by use of the equated-groups method the factor of intelligence or general ability is controlled. Secondly, the objective scores are independent of such distorting influences as teachers' attitudes, and allow greater quantitative precision in the measurement.

In Table 2 the 28 hard-of-hearing subjects of grades four through seven are compared in their performance on the Stanford Achievement Test with 28 normal-hearing pupils of equivalent non-verbal IQ. The average score of the handicapped children on the complete test is seen to be 44.46, while that of their normal-hearing controls is 47.99. This difference of 3.53, equivalent to approximately one-half year of school progress, is by the *t*-test re-

TABLE 2. Mean Stanford Achievement Scores of 28 normal-hearing and 28 hard-of-hearing pupils matched for IQ (Grades 4-7).

Sub-test	*Mean Normal-Hearing*	*Mean Hard-of-Hearing*	*Diff.*	*t*	*P*
Paragraph Meaning	48.54	44.22	4.32	1.90	.06
Word Meaning	46.39	43.25	3.14	1.34	.2
Language Usage	46.39	41.39	5.00	1.81	.07
Arithmetic Reasoning	51.28	45.38	5.90	3.18	.001
Arithmetic Computation	47.22	44.75	2.47	1.54	.12
Spelling	47.78	46.29	1.49	0.66	.5
Total test	47.99	44.46	3.53	2.05	.04

liable at the 4% level of confidence.[2] In only eight instances did the sensory-deficient member of a pair score higher than his control. On all six subtests the same trend is observed, although only in arithmetic reasoning (P=.001), paragraph meaning (P=.06), and language usage (P=.07) are the differences great enough to be more than suggestive. A more detailed breakdown of the matched pairs indicates a tendency toward inverse relationship between degree of hearing acuity and achievement score. The children with 11-24 decibel impairment scored 5.5 points lower than their controls, this difference being reliable beyond the 1% level of confidence; those with 25-44 decibel loss averaged only 2.6 lower than did their controls, which difference is not statistically significant. The direction of this difference is intriguing, although the present study was not designed to be definitive on this point. Further investigation is needed before this seemingly anomalous finding may be regarded as acceptable.

It would seem valid to conclude that in the school population sampled, hearing defect tends to be associated with sub-normal school achievement, if an equation of intelligence level is made in terms of performance on a non-language test. No such difference in achievement appeared when the matching of IQ's was based on a verbal test (third grade), although the number of cases here precludes any definitive conclusion.

Discussion

The number of pupils in this investigation exhibiting hearing loss, 6.6%, calls for no extended discussion. It is somewhat higher than Humphrey's (**1**) 4.8% in St. Louis, Van Deveer's (**6**) 5.0% in San Francisco, and Waldman's (**7**) 5.5% in Philadelphia, but considerably below Laurer's (**2**) 11.3% in Syracuse and Warwick's (**8**) 21.2% in Fort Worth. None of these figures can be claimed to be characteristic of all American public school systems; the proportion of hearing defects reported is a function of economic level of the population sample (**2**) as well as of the method of investigation. No single study can short-cut the necessity of making as careful a survey as possible in any particular school system in question.

The intelligence or general ability level of the hard-of-hearing deserves a more strictly methodological consideration. Intelligence, at least when defined as capacity for learning, cannot be measured directly. Stated differently, it can never be measured with complete independence of past experience. Usually the potentiality for future learning is inferred from the results of past learning opportunities, and in the tests most commonly used with school children, no little emphasis is placed on the amount of *verbal* material learned in the past. For the child with a typical background, i.e., one who has had the 'average' chance to learn verbal skills, this method of evaluation may be justified. But if a child has never heard a certain word spoken, either because of the cultural poverty of his environment or because of a pathological condition of his auditory system, it is of dubious validity to conclude that his capacity for learning the word is subnormal. In short, an intelligence test may frequently yield spuriously low IQ's, and the verbal test scores made by those with defective hearing may be viewed with decided reservations.

From this standpoint, the findings of Waldman, Wade, and Aretz (**7**) that children with a loss of at least nine decibels score lower on the National Intelligence Test than do normal children, and of Madden (**3**) that the hard-of-hearing are subnormal on the Stanford-Binet, may be due to a ques-

[2]This figure is corroborated by the 'sign test' for reliability of differences, which does not presume a normal distribution of data.

tionable selection of measuring device rather than to a true intellectual defect of the children. The contention that the hard-of-hearing child is penalized less on a non-verbal test than on the verbal-type test seems to be confirmed by our results. On the Pintner-Durost Elementary Test, verbal series, our third-grade children with sensory defect averaged 7.4 points lower than did their normal-hearing classmates, and the reliability of this difference was near the 7% level of confidence. On the other hand, the Pintner General Ability Test (non-language) yielded a difference between the two groups in grades four through seven of only 2.68, with a strong statistical probability that this small difference was due simply to chance error. Until unequivocal evidence to the contrary is forthcoming, based on an appreciation of the limitations of the verbal test, it seems logical to conclude that the hard-of-hearing fall within the same distribution of intelligence as the population at large.

The central problem attacked in this investigation was the relative school progress of the hard-of-hearing child. It is usually assumed that sensory handicap tends to retard the child, and grade placement records often confirm this belief. However, certain studies which have attempted to control the intelligence factor by the matched-pair technique, at the same time adopting standardized measures of achievement, have failed to uncover significant differences in the expected direction. One possible explanation of this finding devolves upon the method used in equating IQ's. In these instances the tests were of the verbal type, and as has been argued above, the performance of a hard-of-hearing subject on such a test is probably misleadingly low. If this be true, a hard-of-hearing child so matched with a normal-hearing child of 100 IQ may be expected to have a 'true' IQ higher than the 100 which he has scored. This superior intelligence level makes up for his hearing deficiency in learning school material, and he scores as well on an achievement test as does his ill-matched 'control.' But when the matching is based on a non-verbal scale and is thus more valid, the effect of the handicap might be observable.

Such appears to be the case here, although positive conclusions wait upon more extended sampling. The hard-of-hearing children in the third grade, matched with controls on the basis of test performance in part dependent on language facility, exhibited no inferiority in academic achievement. In the higher grades, using a non-language test to equate IQ's, a difference in achievement was revealed. An intergrade comparison may be of questionable validity, because the effect of the handicap may be cumulative during successive years in school, because the factor of grade placement was necessarily constant in the third grade but was varied in the upper-grade pairs, and because the number of cases in the third-grade group was small. Nevertheless, the lower average achievement of the hard-of-hearing pupil under certain circumstances seems rather definitely demonstrated.

The sub-test results on the Stanford Achievement Test are suggestive. It is tempting to theorize that those skills in which the inferiority of the children with defective hearing was not significant (spelling, word meaning, and arithmetic computation) are typically taught with less emphasis on oral explanation than is the case with the skills in which the difference was more marked (paragraph meaning, language usage, and arithmetic reasoning).

Assuming that these results be confirmed in further samples, the practical implications are obvious. The hard-of-hearing form a significant proportion of our school population, and a program for their optimal adjustment is eminently worthwhile. Their learning capacity is quite normal, but without special attention their full potentialities will fail to be realized, partic-

ularly in skills involving verbal material.[8] A recognition of hearing defects on the part of parents and teachers, the organization of lip reading classes, the provision of medical therapy and instrumental aids, and a modification of teaching methods to take sensory handicap into account, are necessary items in a realistic remedial program.

Summary

The hearing of 692 children in grades three through seven in five elementary rural schools of Virginia was tested. The pupils of the third grade and of grades four through seven were then tested on the Pintner-Durost Elementary Test, verbal series, and the Pintner General Ability Test (non-language), respectively. Finally, the Stanford Achievement Test was administered to the entire group.

1. Hearing losses amounting to 10 decibels or more in the better ear (Maico D-5 audiometer) were found in 46 (6.6%) of the subjects.

2. No significant IQ difference was found between the normal-hearing and the hard-of-hearing in grades four through seven, although the group averages in the third grade differed by 7.4 IQ points (P=.08).

3. Twenty-eight hard-of-hearing children in grades four through seven scored 3.53 points lower on the Stanford Achievement Test than did 28 normal-hearing controls, matched on the basis of non-verbal IQ, age, sex, and number of years in school. This difference, equivalent to approximately 0.5 years of school progress, was significant at the 4% level of confidence. All sub-test scores showed the same trend, although only in arithmetic reasoning and possibly paragraph meaning and language usage were the differences statistically reliable. Grade placement records also showed relative retardation of the handicapped pupils. No reliable achievement difference appeared in the eight pairs of third-grade children equated for verbal IQ.

4. It is concluded that when hearing loss and academic achievement are measured objectively, and intelligence considered in terms of a non-verbal test, the hard-of-hearing child will progress more slowly in the typical school situation than will the normal-hearing child.

[8] It is noteworthy that the sensory handicap of the child was recognized by the teacher in no more than six of our cases, and that school retardation was often ascribed to unwillingness or inability to learn.

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Auditory Acuity for Pure Tones in the Waking and Hypnotic States

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Moe Bergman

REMARKS concerning an investigation of the practicability of obtaining audiograms when subjects are under hypnosis have appeared elsewhere (**4**) as part of a project dealing with the psychological aspects of hearing disabilities. Aside from subjects with psychological components involved in hearing disabilities, it was stressed that records were desirable, for proper evaluation, on normal subjects and those with structurally defective hearing apparatus in whom psychological defects, if present at all, would appear not to incorporate significantly the auditory perceptive sphere.

Auditory acuity of subjects with normal and structurally defective hearing apparatus while in the hypnotic state, as compared to the usual waking state, is of interest also as part of a much larger body of data on hypnosis. Such data may serve, in addition, to clarify impressions gathered during the course of hypnotherapy which seem to indicate occasionally enhanced auditory perceptive abilities of patients under hypnosis. Such observations have been made in work with therapeutic hypnosis, and references to the abilities of some persons to hear better under hypnosis may be found in the literature (**1**, **7**). Adequate, conclusive studies have not appeared as yet.

A partial approach to such studies appears to have emerged through the use of increasingly refined techniques. Current work enables us to review some records of responses to pure tone stimuli delivered through standard audiometers. Striving for threshold levels entails the need, on the part of subjects undergoing audiometry, for a maximum of attention and concentration in order to obtain the best results. The method lends itself, therefore, to the equalizing at least of these factors in both the hypnotic and waking states, assuming of course the existence of conscious cooperation of the subjects. Narrowing the areas of sensory intake with concentration on the auditory sphere is of great importance in both waking and hypnotic states during audiometry, a fact which has much relative value in contrast to clinical interview or therapy situations where equalizing of conditions in hypnotic and waking states appears less likely. In addition, audiometric testing, in contrast to clinical interview techniques, strives for and is more able to approach threshold levels.

Procedure

Testing of the subjects in this study entailed the transmission of pure tones at the frequencies indicated in Table 1

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TABLE 1. Comparison of auditory acuity for pure tones in the waking and hypnotic states (in decibels).

Subject	Ear	State	Frequencies							Average
			128	256	512	1024	2048	4096	8192	512, 1024, 2048
1	Right	Waking	10	15	10	0	−5	−5	10	2
		Hypnotic	15	20	20	10	5	−5	5	12
	Left	Waking	10	15	15	5	0	10	5	7
		Hypnotic	5	10	10	10	5	−10	20	8
2	Right	Waking	10	−5	−5	−5	−10	−10	−10	−7
		Hypnotic	5	0	−10	−10	−10	−10	−10	−10
	Left	Waking	5	0	5	−10	−10	−10	−10	−5
		Hypnotic	−5	10	−5	−10	−10	−10	−10	−8
3	Right	Waking	10	10	5	10	5	15	25	8
		Hypnotic	not tested	15	10	15	0	−10	20	8
	Left	Waking	15	0	10	10	15	30	35	12
		Hypnotic	not tested	20	20	15	10	30	15	15
4	Right	Waking	15	10	10	10	40	40	5	20
		Hypnotic	not tested	25	30	20	40	40	5	30
	Left	Waking	15	10	10	10	50	65	25	23
		Hypnotic	not tested	15	35	20	45	70	35	33
5	Right	Waking	45	50	50	50	65	60	65	55
		Hypnotic	55	45	55	45	50	65	40	50
	Left	Waking	50	60	50	60	60	60	70	57
		Hypnotic	50	50	40	45	50	70	50	45
6	Right	Waking	40	45	40	65	65	75	no response	57
		Hypnotic	45	45	50	60	75	80	no response	62
	Left	Waking	40	50	50	55	80	80	no response	62
		Hypnotic	45	45	55	60	85	80	70	67
7	Right	Waking	45	45	50	35	35	35	20	40
		Hypnotic	not tested	45	45	50	30	35	15	42
	Left	Waking	45	45	50	50	50	30	20	50
		Hypnotic	not tested	40	45	50	30	35	20	42
8	Right	Waking	35	25	30	40	65	65	65	45
		Hypnotic	not tested	40	40	45	65	75	60	50
	Left	Waking	no response	no response	no response	no response	no response	no response	no response	no response
		Hypnotic	not tested	no response	no response	no response	no response	no response	no response	no response

through a headphone applied first to one and then to the other ear. Subjects were tested individually and had their backs to the operator. They indicated awareness of the stimulus by raising a finger as the sound was heard and persisted, and lowering the finger when the sound was no longer heard. Instruments used were Maico D-5 and Western Electric 6 BP audiometers; they were calibrated and equated. Only records of air conduction were studied. Some of the audiograms were done in a sound-proof room and others in a room with an ambient noise level of 35 to 38 decibels.

A sleeping technique was employed for hypnosis with visual fixation to facilitate induction. A modification in technique described elsewhere was utilized in some instances (**5**). The question of desirable aspects of the hypnotic state for these procedures was introduced in another report with mention of a specific item such as post-hypnotic amnesia as a possible prerequisite (**4**). Additional work has confirmed initial impressions to the

effect that this and other classical hypnotic phenomena are of questionable value. It appears thus far that the main requirement is the ability of the subject to participate actively in testing to the extent of attending to and concentrating on the stimuli, responding to them with an appropriate signal, and maintaining a relationship with the operator suitable for completion of the testing procedure without undue delay or difficulty, regardless of the types or number of classical hypnotic phenomena which otherwise may be elicited. This corresponds with current experience in hypnotherapy where the ability of some patients to utilize the hypnotic state advantageously for resolving neurotic conflicts does not necessarily correspond with their ability to demonstrate additionally many classical hypnotic phenomena heretofore considered indicative of a desirably deep trance (**2, 6**).

Of the subjects used in this study, 1 and 2 had normal hearing, 3 and 4 were investigated for complaints of tinnitus, and 5, 6, 7 and 8 had structurally defective hearing apparatus with hearing loss. Subjects 3 and 4 were investigated psychiatrically and were given psychological tests—the Rorschach to subject 3 and the Rorschach, Thematic Apperception Test and Wechsler-Bellevue Intelligence Scale to subject 4. It was felt that neurotic conflicts were present in both, but whether or not the tinnitus was an expression of such conflict in these instances could not be ascertained at the time. The tinnitus in subject 3 approximated 8192 c.p.s., and in subject 4, 2048 on one test and 4096 c.p.s. on another, both determined by subjective evaluation. Whether or not the responses at these frequencies are included or excluded in determining results, the over-all findings are not altered essentially. For subject 4, the responses for 2048 c.p.s. were included in computing the averages to be discussed later. It can be observed that the decibel loss was accentuated in these subjects at the frequencies which approximated the tinnitus.

Limitations are present in these results through inability to obtain thresholds beyond –10 db with the equipment used, the effect being most noticeable for subject 2. Despite the –10 responses, the average loss was calculated and recorded.

Results

When comparing responses in the waking state and under hypnosis, each frequency was considered individually. In addition, an average was computed for the three frequencies most important for the understanding of speech—512, 1024 and 2048 c.p.s.—and these averages were expressed to the nearest decibel. When the frequencies are considered individually for each subject, it is observed in Table 1 that the waking and hypnotic responses are similar at times, and at others the waking or hypnotic responses may each better the other.

In comparing the waking and hypnosis averages for 512, 1024 and 2048 c.p.s., a total of 16 ears may be considered. Evaluating the trend, and disregarding for the moment any significant average difference in responses, the following observations are noted. There were no responses to stimuli for one ear in the waking or hypnotic states, five ears showed better hearing in favor of the hypnotic state, and 10 ears showed better hearing in favor of the waking state.

If an average difference of more than five decibels is considered significant, responses with five ears fall into this category. For three ears, better responses favor the waking state, and for two, the hypnotic state. The former include the right ear of subject 1 and the right and left ears of subject 4. The latter include the left ears of subjects 5 and 7.

With increasing knowledge of psychological components in various diseases, findings in subjects with struc-

turally defective hearing apparatus must be scrutinized with care in more extensive studies that may be undertaken, especially in view of the fact that there has already been demonstrated, in some instances, an ability to obtain lower thresholds on audiograms of patients with psychological components superimposed on hearing defects due to structural damage (**4**).

Questions may be raised regarding the nature and effectiveness of instructions in these hypnotic states should it be felt that properly conducted testing ought to have demonstrated, for the most part, an increased capacity to respond to lesser stimuli in hypnosis as compared to the waking state. Any investigator is subject to such criticism, of course, but it is likewise important to note that for valid comparisons the motivations under hypnosis and in the waking state must be equal insofar as possible and instructions worded accordingly. The maximum of attention and concentration required for obtaining threshold levels in audiometry tends to equalize the energies directed toward this goal in both states. A comprehensive record of experiments dealing with transcendence of voluntary capacities in hypnosis and the criticisms of these experiments have appeared during the past few years (**3**).

Results obtained with the subjects of this study would indicate that in most instances there is a failure to show improvement in hearing under hypnosis as compared with the waking state. These results should be considered suggestive but not conclusive. It would appear, however, that this approach to studies of auditory perceptive abilities may be utilized for more extensive investigations. Speech reception thresholds may be attempted for comparisons of waking and hypnotic states. Repeated tests under hypnosis and in the waking state on the same subject may prove additonally enlightening and would also enable the calculation of standard (testing) errors for each subject. Further controls may be introduced relating to operators and subjects, test materials, and motivational factors.

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Two Ways of Increasing the Clinical Usefulness of a Magnetic Tape Recorder

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Vincent H. Knauf

THE AUTHORS have long felt the need for a recorder that was designed to meet the needs of the speech clinic. Their experience has been that the recorders on the market, since they are designed for wholesale distribution to the general public, are of limited practical value as training aids to the speech correctionist.

For long recordings, many of these commercially built machines do an adequate job, but the speech correctionist has little use for long recordings in training situations. Most of his work is with single sounds or words, plus an occasional short sentence. The authors feel that a recorder of good fidelity, that is simple to operate, that is portable and will reproduce speech sounds immediately, much as an echo, is the ideal clinical instrument. The shorter the gap between the production of the speech sound and hearing the reproduction the less likely the speaker is to lose the kinesthetic sensations involved in producing the sound. Judgment of the sound attempt is thus more meaningful and learning can logically be expected to proceed at a more rapid rate. Furthermore, a recorder greatly increases its clinical value if it can be used to supplement a clinician's time; consequently, it must be simple in operation so that cases of all kinds can operate it by themselves.

The Western Electric Mirrophone meets some of these requirements, but even a one-minute differential between record and playback is too great. Besides, the Mirrophone's fidelity is limited and the machine itself is no longer on the market.

The two plans submitted in this article developed from the authors' attempt to procure an instrument that would provide the features mentioned above. Both instruments were developed from a Model BK 401 Soundmirror, manufactured by the Brush Development Company, an instrument that is too complicated and too temperamental for daily use in the clinic with cases of varying ages and abilities. The device in Plan 1 is simple to build and will not destroy the manufacturer's intended purpose for the recorder in any way. Plan 2 involves radical changes in the original instrument. Since no changes have been made in the electronic recording principles of the original equipment, in either plan response curves and fidelity ranges will be essentially unaffected.

Plan 1. Attachments for Basic Recorder

Only four simple pieces of equipment need to be manufactured for the first plan. All of the materials will cost little more than a dollar and any handy man can do the work if he has access to a scroll saw and a drill press. The

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four pieces to be made consist of a small gear coupling device, a tension regulating pulley, a five and one-half inch pulley, and an extension arm to support the tension pulley.

The following materials are necessary:

1 piece untempered aluminum or brass 1/16" × 3½" × 3½"
1 piece untempered aluminum or brass 3/16" × 1" × 2"
1 piece untempered aluminum or brass ⅛" × ⅝" × 2¾"
1 piece aluminum or brass tubing ½" × 2"
1 bronze bearing ½" long with 3/16" hole
1 piece plastic sheeting 1/16" × 20" × 20"
1 plastic knob from an old radio
1 piece hardwood veneer plywood 5/16" × 4½" × 22"
1 piece hardwood veneer plywood 5/16" × 6" × 6"
1 piece wood ¾" × 3" × 4"
1 gear ½" in diameter and at least 3/16" thick (A setscrew is useful. This gear can be constructed.)
Assorted nails, aluminum rivets, bolts, etc.

The gear coupling device (Figure 1) should be constructed last because it is not absolutely essential. This device makes it possible to shift from the record position to the playback position with but a single movement. Unless the playback volume is turned off when recording, acoustical feedback will result. On the other hand, the record volume control does not need to be changed when playing back. The one-sixteenth inch aluminum should be cut into the pattern shown in Figure 1. The thickness, length, and the number

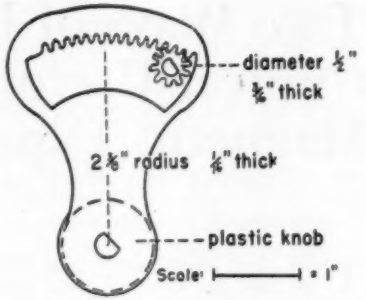

FIGURE 1. Gear coupling device for Plan 1 which automatically turns down the playback volume when recording.

of teeth per inch in the small gear should be measured carefully; then with the proper size bit, drill the same number of holes per inch at the correct depth in the coupling arm. The teeth must be filed to shape. If the gear does not operate smoothly after filing, an expert machinist should be asked to do the job. In order to center the shaft hole accurately, drill with a one-fourth inch bit just deep enough to mark the outer edges of the hole, then drill the rest of the way with one-eighth inch bit and file to shape. When the coupling is tapped and bolted to the plastic knob which operates the record-playback switch, the playback volume control should be in the off position, and the record-playback switch in the record position. Playback volume will be

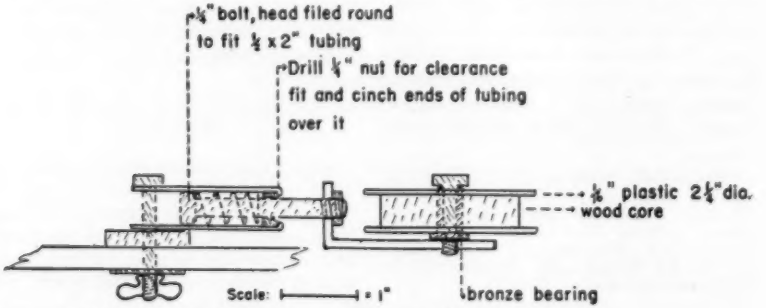

FIGURE 2. Pulley for regulating tape tension for both Plan 1 and Plan 2.

fixed, so the volume must be regulated by the recording volume control.

The tension regulating pulley (Figure 2) offers no particular problem except that care should be taken in the construction of the bearing to insure a good fit and consequent noiseless operation. The wood cores on both pulleys may be trued up by putting a bolt through them and turning them at a fairly high speed in the drill press against a wood file or block of sandpaper. This is very important. The size of the large pulley is not critical. A pulley five and one-half inches in diameter with a five-inch core works very well. The core is 5/16" thick and the two 1/16" plastic discs are glued to it. The center hole should be drilled to match the regular reels which are supplied with the machine.

The length of the extension arm (Figure 3), which supports the tension pulley, may be varied to suit the whim of the builder. A single 3/16" bolt fastens it securely to the machine. Figure 4 shows complete assembly of Plan 1.

Plan 2. Alteration of Basic Recorder

The second plan, as mentioned before, involves some basic changes in Model 401. If portability is not desired, the extension arm described in Plan 1 can be used on the original cabinet with a new panel for mounting the different parts in their new relationship. Three-sixteenths inch pressed wood is quite suitable for the new panel. The general relationship of the parts can be determined from the photograph of the completed unit (Figure 5). The specific position of the different parts to be mounted will be determined by the space available under the panel.

The more portable model can be made by building a new cabinet with inside dimensions of 13" × 13" × 9". The photograph (Figure 5) shows the completed portable model in which you can see that the cover is hinged to the side of the cabinet with the extension arm sliding into the cover. This provides for greater variation in the length of the recording tapes.

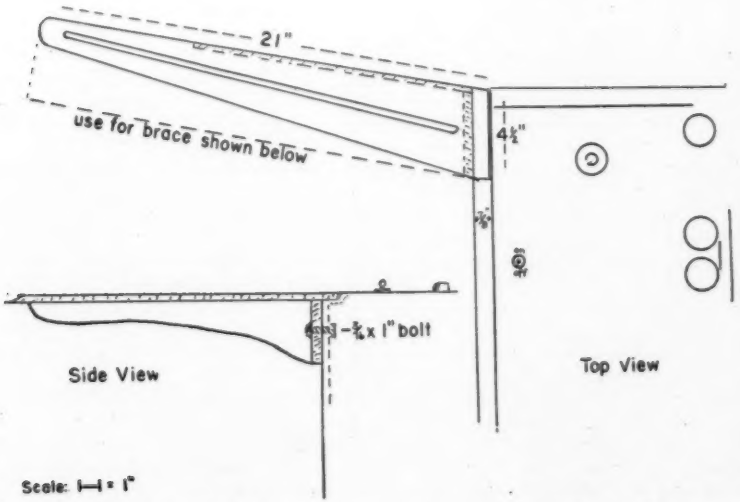

Figure 3. Extension arm which supports the tension regulating pulley in Plan 1.

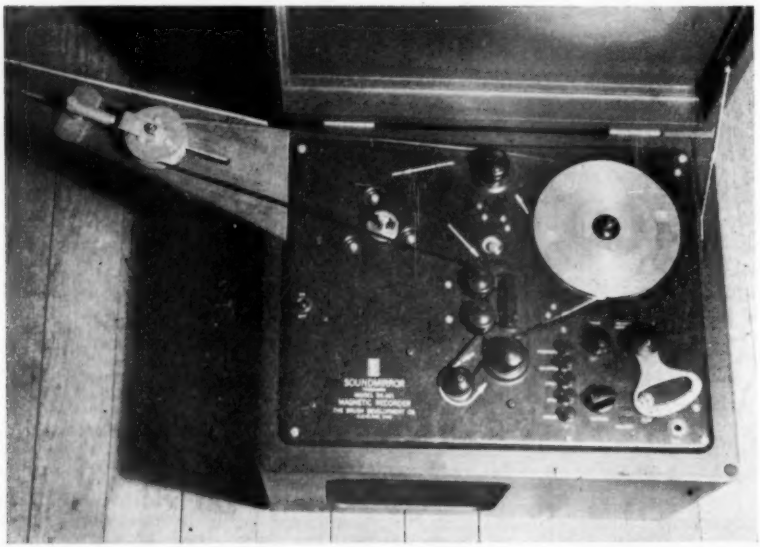

FIGURE 4. The model BK 401 tape recorder with short tape attachments.

The basic amplifier circuit of the Model 401 is not altered, but the switching arrangement is simplified. All relays and push-button switches are cut out of the circuits. The take-up motor and reversing motor are also removed, leaving the drive motor, which is tapped directly to the on-off switch. The recording and erase heads must be interchanged because the relationship between the direction of the tape and the heads has been altered.

The Record-Playback switch, which is a four pole double throw switch in the original unit, is replaced with one of the same type except for one additional single pole double throw circuit. This one switch controls all circuit changes required for changing from record to playback in this adaptation. This leads to the terminals of this switch will be described in detail in the following paragraphs and this discussion can be followed quite readily by consulting the schematic diagram of the original circuit. This diagram can be procured from the manufacturer.

The grid of the first amplifier stage is connected to the arm of the first section of the switch; the microphone jack is connected to the record terminal of this section; the .002 mfd. capacitor and a jumper-wire is connected to the playback terminal. The jumper-wire connects the playback terminals of Section 1 and Section 2 of this same switch.

The record coil is connected to the arm of the second section; the signals from the plates of the 6SJ7 and the 6SN7 tubes and the jumper-wire to the playback terminal of Section 3 of this same switch is connected to the record terminal; the jumper-wire connects the two playback terminals of Section 1 and Section 2 of this switch as previously mentioned.

The arm of the third section of the gang switch is connected to ground; the record terminal is connected to the .002 mfd. capacitor and between the 1 megohm and 68,000 ohm resistors in the plate circuit of the second stage of amplification; the playback ter-

minal is connected to the jumper-wire which comes from the record terminal of Section 2.

The arm of Section 4 is connected to the 'B' voltage of the power supply and the plate resistor of the third amplifier tube (6SJ7); the record terminal is connected to the 15,000 ohm resistor connected to the plate of the 6SN7 tube; also the center tap of the erase coil is connected to the record terminal of Section 4. The playback terminal has no connections.

Section 5 of this same switch breaks the circuit between the volume control and the grid of the power stage (first half of the 6SN7). The arm is connected to the variable tap of the playback volume control; the record terminal has no connections; the playback terminal is connected to the grid of the first half of the 6SN7 in the power stage.

With this information, an experienced radio repair man can make the necessary electrical changes since no parts of the circuit which are not previously discussed are changed.

USE OF THE SHORT TAPE RECORDER

Application of both units to daily clinic use is almost identical. Plan 2 has some definite advantages over the first, however, particularly in portability and simplicity of operation. Its operating controls are reduced to a master on-off switch, two volume controls and a record-playback switch; whereas in Plan 1, the basic complexity of the recorder remains except that it is now possible to preset the other controls and have record-playback reduced to the movement of a single knob. After you have put on a tape of desired length, pull it taut, but not too tight, with the tension regulating pulley, which is then held in the desired position by tightening the wing nut. Tapes should be loosened when the recorder is not in use and tapes of various lengths should be hanging convenient to the recorder. The endless tapes are easily made by splicing the ends of any desired length with colored scotch tape. The plastic tapes will be found best for daily use. The recorder is set for forward operation according to the instructions which come

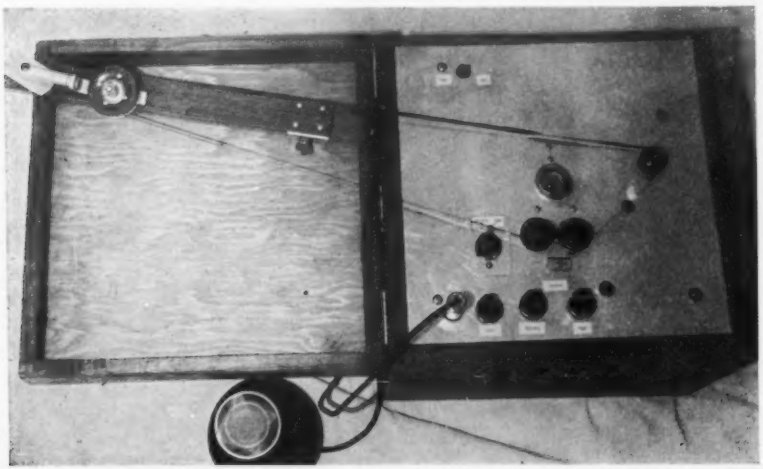

FIGURE 5. Portable short tape recorder rebuilt from the model BK 401 tape recorder.

with the machine. Playback volume must be regulated indirectly by controlling the recording volume. The record-playback switch is turned to the record position. This will turn the playback volume control down by means of the gear coupling device. Once the recorder has been started, this is the only movement necessary.

The operation of the unit built according to Plan 2 is almost self-evident. After the recorder is started, and record and playback volumes have been determined, the only necessary movement is that of the record-playback switch.

The values of the immediacy of playback principle are numerous. Only a few of the possibilities will be suggested here. Inflection cases will respond nicely to a simple record-playback-record-playback procedure on short sentences on a four or five second tape. On a slightly longer tape, the clinician can include an example and the comparison can be studied by leaving the controls in the playback position. Similar procedures can be followed with single sounds or words. The recorder offers an excellent means for the stimulation techniques. If ear training is the primary goal of the clinical lesson, the clinician will do the recording and the student will listen. Two sounds can be disitinguished easily by recording them alternately on the short tape. If the student is attempting production of the sound, the short tape offers an ideal way to check his production with that of the clinician's. The simplicity of the operation of the unit makes it the ideal practice aid for working without a clinician. Progress of the student can be checked conveniently by occasionally putting a ten or twelve second tape in the case history file. It costs little more than a penny and it will not make the folder bulge. The paper tapes may be found best for this purpose. The recorder can be used to motivate group therapy in many interesting ways, such as playing a game of 'echo' with the recorder providing the echo.

FROM JOHNSON TO FAIRBANKS*

From Johnson to Fairbanks!
Yes, let us all shout;
We now can forget
What semantics's about.

Whether general or special,
We'll now have no more
Cute little fillers
O'er which to pore.

For mere words and badinage,
We'll now take advantage
Of dials and meters
And stuff.

We'll forget how we've flourished;
With facts we'll be nourished
As we read about
Sweet decibels.

For tricks of linguistics
We'll now take statistics.
Korzybski can go,
And so forth.

From linguistic proponents
To harmonic components
Dear Helmholtz will now
Point the way.

From quote and unquote
To absolute footnote,
We're through with
Uncertainty.

We have a new day.
Fourier—Hooray!
Hooray, Fourier!
Lack-a-day!

—D. W. MORRIS.

*Amendment to report of retiring Editor; from Minutes of ASHA Council Meeting, December 27, 1948.

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Organized Speech Therapy for Cleft Palate Rehabilitation

McKenzie Buck*
Robert Harrington

INDIVIDUALS with cleft-palate speech need a constant bombardment of exercises and practice, for theirs is a long and tedious road to normal production of intelligible speech. The complications involved are severe, particularly when extensive surgery has been performed. Such individuals are in need of supervision and assistance, not only in the clinic but outside the clinic.

Material for such therapy has no limit. It is extremely difficult, however, for most therapists to find time for research and organization of these materials. The exercises here compiled were organized with this problem in mind. An attempt was made to clarify the purpose behind each exercise in order that the parents or adult cases involved can easily cooperate with the speech therapist, and supervise home therapy. It should be emphasized that parental and self-supervision must be carefully guided by the therapist in charge. Both home and clinical therapy must be coordinated to avoid possible demoralization and confusion on the part of the patient involved.

The exercises have been divided into three sections: Lip Exercises, Tongue Exercises, and Back-of-Tongue and Soft-Palate Exercises.

Lip Exercises

The lip is usually repaired as soon as the infant's condition warrants such surgery. The clinician, therefore, is frequently confronted with a cicatrized muscle. This type of malformation lacks a certain amount of mobility. Frequently it is observed that the lower lip tends to lag in response and become flaccid, while the repaired lip tends to become tight and immobile, which not only detracts from speech intelligibility but also contributes to facial disfigurement.

During the early stages, the following exercises should be done with a mirror in hand. The articulatory mechanism should be watched closely. Later the mirror can be dispensed with, or it can be used occasionally to see that the movements are being formed correctly and to check on facial grimaces that commonly accompany such a defect.

1. Open mouth very widely and then close tightly. Repeat this 10 times, being sure that you open your mouth as widely as possible each time. Exaggerate. (5)

2. Open mouth very widely, then bring lips together and press them together very tightly; then pull them apart quickly so that you smack your lips as they part. Do not clench teeth. Make lips bear the pressure in the contact. Repeat this drill 10 times with maximum vigor and energy.

3. Pucker lips as far forward as possible and draw them back into a forced smiling position so as to show your teeth broadly. Draw the lips back tightly. Keep the teeth clenched. Repeat 10 times and learn how to do it rapidly. (5)

4. Place upper lip over lower lip as far as possible (stretch it well); then place lower lip over upper one as far as you can. Repeat it five times. Learn how to shift rapidly from one position to another.

5. Draw lower lip down, exposing lower teeth. Stretch. Repeat 10 times.

6. With teeth clenched say *oo-ee-oo, ah-oo-ee-oo,* slowly and with very vigorous

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lip action. Round the lips well for *oo* and stretch them back well for *ee*. Open mouth widely. Be sure jaw is pulled down as far as it will go. In this position say *ah-oo-ee-oo, ah-oo-ee-oo*. Stretch your lips to round them for *oo*, and stretch them well back for *ee*. Do not move the lower jaw at any time during this exercise. Repeat 10 times.

7. Say aloud *we-woo-we-woo, we-woo-we-woo* with exaggerated lip action. The lips should be stretched as in a broad smile for *we* and well rounded for *woo*.

8. Purse the lips tightly; open them but keep them well rounded and stretch them forward as far as possible; extend them sideways tight across the teeth as far as possible; extend them outward and sideways as far as possible, keeping them free from the teeth without moving the jaw. Repeat 10 times.

9. Purse lips tightly; keep them in this position and draw them to one side as far as you can; then draw them as far as you can to the other side; then bring them to the middle and push them up, as if trying to touch the nose; then stretch them as far down as possible, keeping them tightly pursed. Relax cheeks and lips by puffing out breath 10 times. Repeat the exercise five times.

10. Pull the upper lip down to touch the lower teeth; scratch the upper lip with the lower teeth lightly; bring the lower lip up to reach the upper teeth; learn to alternate these movements quickly, first the upper lip, then the lower lip. **(3)**

11. Draw the lower lip completely over the lower teeth, as if trying to hide them. Learn to alternate these movements quickly. Draw the upper lip over the upper teeth, as if trying to hide them. **(3)**

Relaxation

(It would be well to practice the following exercise alternately with more strenuous exercises in order to keep the speech musculatures relaxed, especially the lips.)

Relax cheeks and lips so that they can be shaken from side to side. Do this several times while puffing cheeks out and lips loosely apart. Alternate this exercise with repeating the following words, puffing them out loosely, caring not so much for beauty of sound or accurate articulation: pip; pipe; puh; poop; pope; pop; pish; push; piffle.

Lip Activity Using Labial and Vowel Combinations

Hold the lips very lightly and loosely together and vocalize on the following:

m-m-m-m-m-m-m-m-m
mum-mum-mum-mum-mum
maw-maw-maw-maw-maw
may-may-may-may-may
me-me-me-me-me-me-me
mo-mo-mo-mo-mo-mo-mo

Repeat five times, faster each time. **(5)**

Various Consonants Combined with Vowels

pee-pay-pah-poo
bee-bay-bah-boo
mee-may-mah-moo
wee-way-wah-woo
fee-fay-fah-foo
vee-vay-vah-voo

Repeat five times, faster each time. **(5)**

Lipping Exercise

Make a funnel or trumpet of the lips, in order that the sound may be caught, shaped and conducted; then, placing the hands on either side of the lips, make an extra trumpet with them, intone the words, trying to imagine you are speaking down a very long corridor, or along a road to someone at a distance. Every word must be heard in its entirety.

Papers! Papers!
Morning paper! Morning paper!
All about the big fire!
Papers! Papers!
Paper two cents!
Paper, Mister? Paper, Mister?
Buy a paper, Mister? **(2)**

After intoning the phrases repeat them, sustaining the notes of the voice as before, but now using the inflections of speech. This exercise gives both carrying power and capacity to make audible all the lesser words, and prevents the dropping of the voice on the last word of the phrase.

Still hold the trumpet with lips and hands, and shape the words well with the lips as you attempt to project your voice at a great distance.

Popcorn! Popcorn!
Tiptop popcorn!
Who'll buy! Who'll buy!
Hip hop, pip pop, tiptop popcorn! **(2)**

Muscle Coordination—Lip Agility

Sweet, sweet, sweet.
Sweetly sings the swallow.
Sway, sway, sway,
Swiftly sway, oh swallow.
Sweetly singing.
Sweetly swaying.
Swing in our old apple tree. **(2)**

Smile awhile,
And while you smile,
Another smiles;
And soon there are miles and miles
Of smiles,
And life's worthwhile,
Because you smile. **(2)**

Lip Game (The Pre-School Child)

Sounds	*Animal or Object for Imitation*	*Sound to be Given by Child*
p	chick	peep-peep-peep-peep
p	kitty	purr-purr-purr-purr
b	bee	buzz-buzz-buzz-buzz
b	dog	bow-wow, bow-wow-wow
b	sheep	ba-ba-ba, ba-ba-ba
p	bird	chirp-chirp-chirp
m	cat	meow-meow-meow-meow
m	cow	moo-moo-moo-moo
w	wind	woo-woo-woo-woo
kw	duck	quack-quack-quack
wh	owl	who-o-who-who
p & f	engine	puff-puff-puff-puff

Lip Activity Rhymes

Pie, Pie, pudding and pie,
Pete likes pudding, and Pete likes pie.
Pie, Pie, pudding and pie,
Pete likes pudding, and so do I.
Pie, Pie, pudding and pie,
Pete likes pie, and so do I. **(2)**

Fe-fi-fo-fum,
Fe-fi-fo-fum, (Each line faster)
Fe-fi-fo-fum,
Where is little Tom Thumb? **(2)**

Why do you whirl
Up in the sky
Windmill wheel
Why? Why? Why? **(2)**

Purr, purr, purr, purr,
Jolly little bunch of fur.
Curled up snug, like a bug in a rug,
With a purr, purr, purr.
—Mother Goose

Bow, wow, bow,
Little Dog Chew,
Funny little fluffy dog,
Bow-wow-wow.
—Mother Goose

Froggy-boggy sat on a rock;
Froggy-boggy had a big shock.
Froggy-boggy fell off the top,
Fell in the pond, and fell with a flop.
—Mother Goose

Five little squirrels, sitting in a tree,
The first squirrel said, 'What do I see?'
The second squirrel said, 'I smell a gun.'
The third squirrel said, 'Oh, let's run.'
The fourth squirrel said, 'I'm not afraid.'
The fifth squirrel said, 'Let's hide in the shade.'
(Clap hands) 'Bang,' went the gun.
And away the squirrels ran, every one. **(2)**

Tailor, tailor, cut my coat;
Snip, snap, snip, snap, shears!
Cut it from our old black goat;
Snip, snap, snip, snap, shears!
One velvet collar on it;
One silver dollar for it;
Snip, snap, snip, snap, shears! **(2)**

Once I had a Ford car
A little Ford coupe.
I named her little Betty Ford
She never ran away.
I've had other cars since Betty
But none I so adored,
As I did that little Betty
My little Betty Ford. **(2)**

'Quack, quack!' quickly quacked
The queer little Quacky duck.
'Quack, quack, quack, quack, quack, quack!
Here's a nice little pond,
We're in luck,' quacked the duck. **(2)**

Wouldn't it be funny—
Wouldn't it now—
If the dog said, 'Moo-oo'
And the cow said 'Bow-wow'?
If the cat sang and whistled,
And the bird said, 'Mia-ow'?
Wouldn't it be funny—
Wouldn't it now? **(2)**

Betty Botter bought a bit of butter to put into her batter. Said Betty Botter, 'This bit of butter I've bought to put into my batter is bitter, and if I put bitter butter into my batter, it will make my batter bitter.' So Betty Botter bought a bit of better butter and put it into her batter, and the bit of better butter made her bitter batter better. **(2)**

Tongue Exercises

The necessity for tongue exercises often comes as a result of surgery after speech habits have been formed. Frequently the individual uses the tongue to fill space and block air passages before repair, which results in extreme sluggishness and inactivity. In addition to these causal factors, the malocclusion that frequently accompanies severe clefts amplifies the necessity for tongue placement exercises, so that compensations may be accomplished in producing certain plosive and sibilant speech sounds.

Establish Control Over and Flexibility of the Movements of the Tongue

1. Have the child extend his tongue out of his mouth as far as possible; stretch the tongue well; draw the tongue back into the mouth quickly and close the lips tightly. Repeat. Learn to do the exercise rapidly. **(5)**

2. Keeping the tongue pointed as much as possible, have the child dot four spots on the lips—lower, right, upper, left—in four counts. (1)

3. Keeping the tongue pointed as much as possible, have the child dot the back of the upper teeth, the alveolar ridge, the hard palate, and the soft palate in four counts. (5)

4. Have the child touch each tooth on the upper jaw with the tip of the tongue, beginning at the right rear. Repeat, beginning at the left rear of the lower jaw. Reverse the order of practice. Continue practice until the child can place the tip of the tongue exactly where he wishes with great speed and accuracy. (5)

5. Have the child place the tip of the tongue against the lower teeth then raise the back of the tongue; relax; raise; relax; two counts. (5)

6. Have the child open his mouth moderately wide, and move the end of his tongue from side to side within the mouth as rapidly as possible. Continue this practice until he can move the tongue very rapidly and accurately. (5)

7. For exercise of the tip of the tongue, have the child repeat the sound *la* with no jaw movement in the following rhythm pattern: Laaaa La La Laaaa La La Laaaa Laaaa Laaa (5)

8. For exercise of the back of the tongue, have the child repeat *ga* in the same rhythm pattern.

9. For exercise of the center of the tongue, have the child repeat *ya* in the same rhythm pattern.

Establish Control Over and Flexibility of the Movement of the Soft Palate and the Back of the Tongue

1. Have the child raise the back of the tongue up to the soft palate so as to close all the back part of the mouth as you would in saying the sound of *k* in kite. Press the tongue tightly against the soft palate; relax; let the tongue lie flat in the mouth. Repeat. Start the work on this exercise very slowly, gradually increasing the speed.

2. Have the child say slowly, emphasizing each sound strongly, *ung-ah; ung-ah; ung-ah; ah-ka; ah-ka; oh-go;oh-go.*

3. Have the child open his mouth wide and relax his tongue and throat. Whisper *ah* sharply and strongly. Watch to see that his soft palate rises as it produces the sound. Repeat; rest; repeat.

4. Have the child repeat the sound *ng*, prolonging the sound of *n* and with a quick, hard take-off of the tongue from the soft palate on the *g*.

Suggested Order for the Production of Consonants

(If, however, any sound proves exceptionally difficult for the child to master, it should be delayed until a later time.)

Whispered	*Voiced*
p	b
t	d
f	v
th	th
wh	w
k	g
s	z
sh	zh
ch	j
h	–
–	l
–	r

Vowel exercises should be started as soon as the child has mastered a few consonants and can begin to use them in word production. The child should be relaxed; tension in the muscles of the throat should be eliminated if possible; the sound then should be produced in an easy natural tone. The sound should be well-rounded and well-forward. Games such as bouncing the sound against the wall or catching the sounds as they are emitted from the mouth will help, by suggestion, to get the voice well forward with the sound coming from the mouth instead of through the nose.

5. Teach the correct position of the sound:

a. By auditory stimuli: let the child hear you produce the sound correctly and then attempt to imitate you. An aid here is getting the child's attention and then whispering the correct sound for him to imitate. Another aid is to repeat the correct sound five or six times at evenly spaced intervals and then ask for one correct reproduction from the child, allowing no word to be spoken between the giving of your pattern and the reproduction by the child. (4)

b. By visual stimuli: let the child see and examine the way in which your visible vocal organs are placed for the reproduction of the correct sound. Allow the child to watch his image in a mirror to aid him in establishing similar sound positions. Included here should be practice in giving the sound correctly upon presentation of the written symbol. (4) (1)

c. By tactile stimuli: let the child learn the sensation of the vocal organs when in correct position for production of the sound. Let him assume the tongue, jaw, and teeth position, ready to produce a given sound; relax; assume position again; relax. While he is learning the feel of certain sounds, do not have him produce the sound, only take the position and then relax.

d. By kinesthetic stimuli: with the aid of a tongue depressor, place the tongue, teeth and lips in the correct position for the production of the sound. Then allow the child to imitate this position alone. If he is unable to do so, aid him again in establishing the correct position. This method is valuable in teaching such difficult sounds as the *s*. (1)

6. Practice the new sound in combination with vowel sounds in all positions.
ed do ed ode——for the sound of *d*

7. Carry the production of the correct sound over into practice on words. Give the auditory stimulation and ask for the reproduction of the correct sounds. Practice on words with the sound in all three positions: initial, medial, and terminal. (4)

8. Carry the practice of the production of the correct sound in words over into practice on memory work, with verses and jingles containing words with the sound on which you are practicing. Memory work should be of the child's mental scope, and should contain the element of interest. (4)

9. Carry the practice of the production of the correct sound over into reading and story telling. (4)

10. Carry the practice of the production of the correct sound over into spontaneous conversation. (4)

Tongue Exercises (Children and Adults)

1. Extend tongue out of mouth as far as possible. (Stretch) Draw tongue back into the mouth and close lips tightly. Repeat *rapidly* ten times. (3)

2. Extend tongue out of mouth and try to touch end of nose. (Stretch) Draw back into the mouth quickly and press lips tightly together. (3)

3. Extend tongue out of mouth as far as you can. (Stretch) Try to touch lower edge of chin. Draw tongue back into mouth quickly and press lips together tightly. Repeat *rapidly* ten times.

4. Extend tongue out of mouth as far as it will go. Attempt to touch a far point toward the ear on each cheek. Draw tongue back into mouth and press lips together tightly. Repeat *rapidly* ten times.

5. Repeat Exercise 4 for the opposite side and cheek.

6. With tongue protruded between the teeth as far as it will go, wag tip of tongue up and down as rapidly as possible. Do not press teeth against tongue too hard. Do this exercise for thirty seconds, then rest and repeat. (5)

7. Rotate tongue around the outside of the mouth, first in clockwise direction. Repeat ten times quite rapidly. (5)

8. Touch each tooth on upper jaw with tip of tongue, beginning at right rear. Repeat, beginning on the rear on the left of the lower jaw. (5)

9. Place tip of tongue on the inside of the upper front teeth. Slowly move tip backward over the surface of the roof of the mouth until the soft palate is reached. Do not remove the tip from the surface of the roof of your mouth. Stretch tongue so that tongue tip reaches far back in the mouth. Slowly return tongue to upper front teeth in the same manner. Repeat five times or more.

10. Open mouth moderately wide and move the end of the tongue from side to side within the mouth as rapidly as possible. Practice this until you gain facility in moving the tongue *very* rapidly.

11. Move entire tongue in and out of the mouth as rapidly as possible with the mouth moderately open. Practice until you can perform this exercise with great speed.

12. Practice shifting back and forth between the movements from side to side as in Exercise 10, and in and out as in Exercise 11. Practice until you can shift back and forth very easily while doing either one. Check these movements very carefully in the mirror to see that there is an economy of movement. (5)

13. Extend the tongue out of the mouth. Raise the sides of the tongue so as to produce a groove lengthwise in the middle of the tongue. Holding the tongue in this position, draw the tongue back into the mouth and extend it again very promptly. Repeat this in-and-out movement very rapidly ten times with the tongue in this grooved position. (5)

14. Practice touching the roof of the mouth in three places with the tip of the tongue; first the front, second the middle, third the back. Repeat entire exercise ten times. (5)

15. Place the tip of the tongue inside of upper teeth. Keeping the tip in this position, roll the remainder of the tongue forward and out of the mouth. Remember that the tip must remain against the inside of the upper front teeth. Stretch tongue as far as possible out of the mouth with the tip in position. Repeat ten times.

16. Place tip of tongue against inside of lower front teeth. Roll tongue out of

mouth as in previous exercise. Keep tip in position. Repeat ten times.

17. Extend tongue from mouth and practice producing a very pointed tongue tip.

18. Sweep the roof of the mouth with the tip of the tongue in a circular motion. First to the right and then to the left. Repeat ten times. (5)

19. Place the tip of the tongue between the upper teeth and upper lip. Follow the space around from right to left as far as you can. Place the tip of the tongue between the lower lip and the lower teeth. Move the tip from left to right reaching as far as possible to the inner sides of cheeks. (5)

20. Extend tongue out of mouth. Have oral opening as wide as possible. Now flip tongue up and down rapidly between upper and lower teeth. Do at least ten times.

21. Wipe 'fudge frosting' from the lips, carefully removing the frosting from the corners of the mouth. Now wipe 'vinegar' from the lips (retracting the lips and bunching the tongue). (1)

22. Pretend that you are a kitty lapping milk from a dish. (1)

23. Imitate the crowing of a rooster, 'cockle-doodle-doo.' (1)

24. Imitate the calling of a crow, 'caw, caw, caw.' (1)

If the child can imitate the above play exercises successfully, turn now to finer adjustments for the tongue:

1. Dot the lips with the point of the tongue: 'up-side, down-side,' first on the inside, then on the outside of the lips. Repeat the exercise, now sweeping the lips with the tongue-tip in rhythmic action.

2. Dot the palate from front to back in four steps, then sweep the palate with a backward and forward movement of the tongue-tip and blade.

3. Place the tip behind the lower teeth; bulge the blade and dorsum; alternate relaxing and bunching the tongue.

4. Push the tongue-tip against the alveolar ridge as for *t*, increasing the pressure noticeably before exploding the sound.

5. Sweep the inner edges of the teeth with the tongue-tip, beginning with the molars. (1)

Vowel and Consonant Practice (*Children and Adults*)

oot-oht-awt-aht-ayt-eet
ood-ohd-awd-ahd-ayd-eed
oos-ohs-aws-ahs-ays-ees
ooz-ohz-awz-ahz-ayz-eez
oosh-ohch-awch-ahch-aych-eech
oost-ohsts-awsts-ahsts-aysts-eets
ooth-ohth-awth-ahth-ayth-eeth
oodth-ohdths-awdth-ahdth-aydth-eedth
oodths-ohdths-awdths-ahdths-aydths-eedths
oon-ohn-awn-ahn-ayn-een

Simple Sentences for Tongue Practice (*Probably Adults*) (1)

1. Thenceforth it was hoped there would be peace.
2. Theirs was the first choice.
3. Despite their having the wherewithal, they've accomplished nothing.
4. Brotherly love and love for the fatherland sometimes conflict.
5. The Northerner was expert in the use of logarithms.
6. The absent-minded barber almost smothered his client in lather.
7. Ripe heather is feathery.
8. Those who pay a tithe are seldom blithe.
9. A face wreathed in smiles can soothe when another can't.
10. Those who are truly American hate despotism.
11. The rise in wages of labor generally lags behind prices.
12. A loan seldom liberates the borrower.
13. A lyric, to be pleasing, must be lucid.
14. It is lamentable for adults to have defective *l*'s.
15. The electric eel need not use guile.
16. We will revel as we sail on our yawl.
17. The artfully told tale held us in thrall.
18. The villain left jail on bail.

The Lips-Jaw-Tongue-Velum Together (*Children*)

1. Tut-tut-tie!
   Never tell a lie.
   Tut-tut-too!
   It will hurt you if you do.
   —*Mother Goose*

2. Polly put the kettle on,
   Polly put the kettle on,
   Polly put the kettle on,
   And we'll all have tea.
   —*Mother Goose*

3. Pease-pudding hot,
   Pease-pudding cold,
   Pease-pudding in the pot,
   Nine days old.
   —*Mother Goose*

4. Hungry kitty cries:
   'Mew, mew, mew.'
   Mooley cow answers:
   'Moo, moo, moo.'
   —*Mother Goose*

5. The Pacific Limited. A train is running very fast over the rails. Imitate as rapidly as you can the sound of wheels: 'k-t, k-t, k-t,' etc. The train slows down, pulls into the station with a 'whoo, whoo, whoo,' etc. . . Now the steam escapes with a sharp 's-s-s-s.' The conductor calls, 'This way out, sir!' (1)

6. Going to the farm. This is a barnyard in the morning. First the cock crows: 'cockle-doodle-doo.' Then the cow bawls as she waits for the farmer to come for the milk: 'moo-mooo-mooo,' etc. This little lamb cries 'baa-baa,' etc. The great pig grunts, 'oink, oink,' etc. as he hurries to the trough for his breakfast of mush. The hen clucks 'k-k-k-kut-kut,' etc. as she flies off the nest after laying an egg. Morning is here. (1)

7. Take advantage of any event in the community, a circus, or ball game, or carnival. Motivate the child to imitate sounds which he hears at such an event. Let him be the cheer leader, the barker selling lemonade and peanuts, the umpire, or the announcer with a megaphone. (1)

Games (*Children. Perhaps some would do for adults.*)

A. Story-telling rhyme:

1. Little Linda lost her locket.
Lovely, lucky, little locket.
Lately, Linda found her locket,
Lying still in Linda's pocket. (2)

2. Creep to sleep,
Teeny sheep.

(Appropriate action with this will add to the interest in doing it.)

B. Practice rhymes:

1. (Tongue game)

A little red man in a little red house
With gates of ivory!
He might stay there, as still as a mouse,
And nobody could see;
But talk he will, and laugh he will,
At everything you do;
And come to the door and peep, until
I know his name—don't you? (2)

2. Pink elephants, pink bears,
Pink baby tumbles down stairs,
Pink doggies, pink cats,
Pink dresses to wear with pink hats.
Baby wakes and wants ice cream;
For this is just a tiny pink dream. (2)

3. Dibbity, dibbity, dibbity, dough,
Give me a pancake
And I'll go.
Dibbity, dibbity, dibbity, dibber,
Please to give me
A bit of a fritter. (2)

4. (Act with this)
Oh, the Raggedy Man is a funny, funny man.
He flaps and he flaps as fast as he can,
His arms fly out, and his legs fly too,
Mr. Raggedy Man, how do you do? (2)

5. (Play echo or sing)
Little Sir Echo, 'How do you do?'—
'Hello, hello,'—'Hello, hello.'
Little Sir Echo will answer you,—
'Hello, hello,'—'Hello, hello.'
Little Sir Echo is very shy,—
'Hello, hello,'—'Hello, hello.'
Little Sir Echo is hiding nigh—
'Hello, hello,'—'Hello, hello.'
Little Sir Echo is very near,—
'Hello, hello,'—'Hello, hello.'
Little Sir Echo sings sweet and clear,
'Won't you come over and play?
You're a nice little fellow,
I know by your voice, but you are
always so far away.' (2)

6. (Clap to this)
Clap, clap, bow.
Clap, clap, bow.
Stamp, stamp
Turn yourself around. (2)

Clap, clap, clap together
Clap, clap away.
Clapping's fun for you and me,
Let's clap the time away. (2)

7. (Toe or finger game)
This little froggie broke his toe,
This little froggie cried, 'Oh, Oh, Oh,'
This little froggie laughed and was glad,
This little froggie cried and was sad,
This little froggie so helpful and good,
Hopped for the doctor as fast as he
could. (2)

8. (Two groups, answering)
One misty, moisty, morning,
When cloudy was the weather,
I met an old man all clothed in leather,
He began to compliment,
I began to grin,
'How do you do, how do you do,
How do you do again.'
—*Mother Goose*

9. (Ball game can be done with this)
Say: 'Bounce the ball, bounce the ball.'

10. (Play tick-tock)
The great tall clock in the hall,
The grandfather's clock of them all,
Goes tick——tock——tick——tock.
And Mother's little clock on the shelf,
Goes tick-tock, tick-tock, tick-tock.
But Father's little watch in his pocket,
Goes ticky, ticky, ticky, ticky, tocket. (2)

11. There were three crows sat on a tree.
O Billy Magee Magaw.
There were three crows sat on a tree.
O Billy Megee Magaw.

There were three crows sat on a tree.
And they were as black as crows could be
And they all flapped their wings and cried,
'Caw, caw, caw, caw.'
Billy Magee Magaw. (2)

12. Br-r-r—Br-r-r
I'm a brown bear.
If you catch me,
I'll sit over there. (2)

13. (Tongue Game)
Touch your right cheek,
Touch your left.
Trill and trill and trill and trill.
Now you may let it rest.

Touch your upper teeth,
Touch your lower.
Trill and trill and trill and trill.
Do this by the hour.

Now put your tongue out,
Now pull it in,
Now trill, and trill, and trill, and trill,
Such a pretty din! (2)

Back-of-Tongue and Soft Palate Exercises

With the nature of cleft-palate speech in mind, it is apparent that this section of exercises play an important part in the role of speech rehabilitation. Again, surgical repair quite often results in a cicatrized muscle and makes it necessary that a great deal of therapy be applied in order that a closure of the nasal port be accomplished. (These exercises can also be applied to muscle training in the presence of an obturator.) Without this closure, speech sounds tend to be nasalized; plosives and sibilants are either absent or so breathy that they may be unintelligible. It must be remembered that the criterion for therapy is not normalcy in the sense that we hear no defect whatsoever, but normalcy in the sense that the speech is intelligible and that the individual can communicate with ease.

Infants

The reflexes of crying, yawning, and swallowing and chewing will automatically massage the velum.

Children

1. When the child has learned voluntary control to the best of his ability with the lips nearly closed, ask him to attempt alternation of breathing through the nose and mouth but with the jaw gradually lowered. 'Hum the *ng* of sing, beginning with the lips nearly closed and gradually dropping the jaw. When I say "stop," stop the sound, lower the tongue and allow the remainder of the air to exit easily through the nose.' (1)

2. Order: Plosives first because they teach impounding of the air and controlled expulsion.

3. Practice blowing ping-pong balls across the table. (4)

4. Practice blowing a sheet of paper against the wall so that it will retain its place. (4)

5. Place one cardboard under nose and another under lower lip. Place small ball of crumpled paper on each. Practice until you can blow the lower ball without disturbing the upper. (4)

6. Practice blowing soap bubbles. (4)

7. Practice puffing up cheeks by compressing air in the mouth. (4)

8. Practice displacing water in a two bottle series. (4)

9. Play the game of wind-blowing, using paper napkins. (4)

10. Have a sailboat race, blowing tiny boats across a basin of water. (4)

11. Use an apparatus made with two little platforms, one above the other. This is held in such a fashion that the upper platform is projected outward beneath the nostrils and the lower platform outward below the lower lip. By placing wisps of feather on the two platforms, the student is required to blow the feather off the lower platform without disturbing the upper. (4)

12. Line up and light three candles. Place about a foot away and six inches apart. Try to blow out the center candle without disturbing the others. (4)

13. Fasten a rubber tube to a nasal olive inserted in one nostril. Insert tube in glass of water. Blow through a soda straw immersed in another glass of water. Hold the free nostril closed and try to blow bubbles with the soda straw without causing any bubbles in the other glass. (4)

14. Use whistles, pea-shooter, pin-wheels, horns, harmonicas, and other musical instruments or toys to provide motivation. (4)

15. Puff cheeks and let the air escape so as to move a strip of confetti held before the mouth. (4)

16. Blow out candles at increasing distances. (4)

17. Learn to whistle and whistle frequently. (5)

Whistle when you're lonely,
Whistle when you're blue,
Whistle when you want me
And I'll come to you.
This shall be your whistle. . . .
(Clinician and/or student whistle)
When I'm near you,
Whistle that way too. (2)

18. Slowly pinch and release your nose as you prolong each vowel. Do not alter the quality of your voice as you do this. (4)

19. Clear your throat and feel the action in your soft palate.

Adults

1. Have the patient swallow repeatedly until he becomes aware of a feeling of strain. Have him try to isolate any sensation he may get from the soft palate or the pharyngeal wall back of it. (5)

2. Have him yawn, and note in the mirror the obvious change in the appearance of the pharyngeal wall and faucial arches. Have him try to make an occlusion between these structures, increasing and decreasing the tightness of this closure until he makes a squeaking noise. (5)

3. The person who cannot yawn at will may be able to produce the gag reflex by stimulating the velum or the posterior wall of the pharynx with a tongue depressor. Try to reproduce movement without the unpleasant experience of gagging. (5)

4. Have him close the mouth and pinch the nostrils tightly attempting to push the air out alternately through the tightly closed mouth and the pinched nostrils. He will feel a sensation of pressure in his ears and hear a click as he tries to expell the air through the nostrils but he should experience neither as he attempts to expel the air through the closed lips. This exercise will massage the palate and should help to create a consciousness of palatal movement. (5)

5. Reduce the excessive activity of the muscles about the nostrils. Practice in front of a mirror. Follow this with reproducing these movements voluntarily. *Do them on purpose.* This will bring the activity of these muscles under willed control. (5)

6. Raise the back of the tongue up to the soft palate so as to close all the back part of the mouth as you would in saying the sound of *g* as in the word 'good,' Squeeze tongue tightly against soft palate. Allow tongue to relax and lay flat in the mouth. Repeat very rapidly ten times.

7. Say slowly, emphasizing each sound strongly, ***ung-ah, ung-ah, ung-ah, ump-ma, ump-ma, ump-ma, ump-ma.*** Spend at least one minute doing this exercise.

8. Say ***ung-ick, ung-ick, ung-ick,*** prolonging *ng* sound and making the *k* explosion sound short and sharp. Do this exercise for at least one minute.

9. Open your mouth wide and relax tongue and throat. Whisper *ah* sharply and strongly. Your soft palate should rise. Relax. Whisper *ah* strongly ten times being sure that the soft palate rises rapidly each time. Rest and repeat the exercises until you can raise the palate quickly.

10. Open the mouth wide. Yawn. Relax. Alternate yawning and relaxing ten times. This exercise and Number 4 are important palatal exercises and should be repeated very often.

11. Raise the larynx, counting one to ten, raising pitch gradually as you count. Lower larynx and tone gradually as you come down from ten to one. Same with vowel sounds, raising tones on *ah, e, oh, oo, aw.* Lower on *aw, oo, oh, e, ay, ah.*

12. Uvula: Raise and lower on *ah-ung-ah* sounds *ay-ung-ay; ee-ong-ee; oh-ong-oh; oo-ung-oo; hang-ay; hung-ee; hang-ah; hang-aye.*

13. For nasality:

sting-oh
sing-ay
sing-i
wronging-oo
meaning-ah
strengthening-ah
awning-oh
worrying-i
incurring-ay
belong-oh
clang-ay
clangor-oo
cling-ee
singing-oh
thinking-i
stocking-oh
roaming-ah
bringing-ee
roaring-oo
flinging-ee
breathing-ee
grazing-ay
blossoming-oo
clamoring-ah
bank-ay
bango-oo
singer-ay
ringing-oh

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Notes on Organizing a Speech Correction Program in the Public Schools

Thomas D. Houchin*

THIS article has been written to assist the first-year speech correctionist in establishing or revising a program that will fill the needs of the students for whom it was organized. To some long-time speech correctionists, a few of these ideas may seem obvious. The author can defend their inclusion only on the basis of his own experiences in organizing and administering a speech correction program, along with similar experiences of his friends in setting up special education programs, and finding little concrete material with which to start. A formulation of this kind, therefore, would seem to be useful.

Materials the speech correctionist should have before he begins his work in the school system:

1. Forms for case history records, speech examinations, voice and articulation record blanks, case summary outlines, speech correction case file cards.

2. Requisition list of supplies needed to begin speech correction work (not including books).

3. List of equipment needed, including: books (see list at the end of this article), reprints, file cabinets (one file cabinet for manila folders and one for 5″ × 8″ speech case file cards), small chairs, mirror, blackboard, audiometer, and access to a voice recording device.

4. Personal lesson plans, pictures, ideas, story books, etc.

5. Sample letter to parents (to be modified to suit the situation).

6. Professional library of periodicals, including: *Journal of Speech and Hearing Disorders, Quarterly Journal of Speech,* and *Journal of Exceptional Children.*

A procedure for the speech correctionist upon arrival:

1. Confer with the superintendent and the principals. In these conferences, (a) procedure, (b) goals, and (c) general approach of the speech correction program will be discussed and decided upon. The speech correctionist should have forms, requisitions, and equipment lists with him to present at the earliest opportunity.

2. Survey the school population to be considered for speech correction work. For this, one should have a phonetically balanced reading passage for reading children and an Arnold or Bryngelson-Glaspey articulation test for the non-readers (or for those children whose reading skill would preclude an adequate evaluation of their speech performance). As an alternative, surveys may be made during the first part of the second year or the latter part of the first. Some speech correctionists prefer to concentrate on the cases who have not received any assistance over the years by utilizing the 'teacher referral system' during the first year. This will also serve the purpose of proving what the speech correctionist can do before lengthy surveys are conducted. A disadvantage is that all of the most critical cases might not get referred.

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It is important to remember to check the ninth grade students who have come in from the county rural schools or convent schools, and who thus may not be known to the public school teachers for immediate referral. Probably this may be done most conveniently through the ninth grade English teachers.

In any survey, it is a good idea to examine the schools alphabetically. In some school systems the speech correctionist has selected children from the odd-numbered grades; in others, selecting children from grades one, two, and three, plus referrals from all other grades, has been a solution. Whether the speech correctionist will concentrate intensively on a few schools in the system each year or will have the students most in need of speech correction from all the schools is a problem that must be solved by the individual speech correctionist and administration.

3. Give hearing tests, preferably to all the speech correction cases and to any others referred by parents or teachers. This may be worked out in most schools with the school nurse and the state hearing conservation program. Lip reading or speech reading instruction should be given to students who are unable to 'pass' a test on the audiometer at a 25 decibel level in both ears. Through the school nurse, the speech correctionist should also recommend otological examinations and assist with her aural hygiene program.

4. Early in the school year, the speech correctionist should make plans to record the voices of the speech correction cases, usually on small discs. Phonetically balanced material for reading and a conversation sample should be included on the record. This will help to serve as a standard for the case, the speech correctionist, teacher, or parent to use in checking progress.

5. Set up a tentative schedule for speech correction work (as tentative as any speech correction schedule must be) as soon as possible. This will allow the speech correctionist to meet the boys and girls in need of special education and to change his schedule as it becomes apparent which children should receive the most attention.

6. Parent conferences will be both of the sort when a parent comes to the speech correctionist's office as requested or when the speech correctionist goes to a home, and of the (perhaps more important) type when the parent visits his child's group to receive special education assistance. In these conferences, it is essential that the speech correctionist be prepared to be asked any question, and to answer that question, or at least to clarify it, with unfailing, *tactful* honesty. The speech correctionist should in no way 'talk down' to the parents. He should answer any question with as little technical terminology as possible.

7. Public speaking appearances will be very important. In public school speech correction, it is vital for one to remember that *he directly determines what will be said about speech correction in everything he does.* He should be ready to answer questions of the townspeople and the faculty quietly, clearly, and authoritatively.

8. The speech correctionist should investigate the health, speech, psychological, and child welfare services of his own particular state. The state agencies will cooperate fully if given the data and evaluation on a case when outside help is needed.

9. Plan from the beginning the records to be kept. In some instances a folder for each child with outlines of work done has seemed most beneficial; in others, a teachers' plan book combining lesson plans and records of meetings has been more convenient. One speech correctionist, taking over a well-established speech correction program in a large city, found the following case history concerning a child who was a cleft palate

stutterer: 'He was a behavior problem.' Too often one finds such case histories, of no value either to one coming back for the second year or to a new speech correctionist going over what has been done.

A regulation grade book can easily be adapted to serve as an attendance record. At the beginning, too, it is wise to write for a copy of the state report required to be filed in most states at the conclusion of the school year. This may prevent the speech correctionist from frantically going over whatever files he may have kept concerning how many people were met, when he first met a particular child, how many days the child was absent, etc. Final summaries at the end of the year concerning the nature of each case's problems, description of the student (including attitude toward the speech correctionist, response to activities, etc.), progress made, and suggestions to the speech correctionist for the ensuing year are always called for.

10. The individual differences of various public school speech correction programs cannot be over-emphasized. The speech correctionist should at all times be alive to adapting these suggestions and his own ideas to suit an individual superintendent, supervisor, or faculty. Requests will, of course, have to be tempered, at the outset, to (1) the school budget, (2) the present equipment, and (3) the extent of the speech correction program. That is not to say, however, that the philosophy and extent of the program at the beginning of the school year cannot be modified as the speech correctionist works in the system, is accepted, and produces results.

Speech correction forms, sample letters to parents, bibliographies, etc.:

SAMPLE OUTLINE FOR FIRST THREE WEEKS

Sept. 2-5, 8-12,
Survey the grade school population with appropriate speech tests.

Sept. 15-19,
Parent conferences; set up school schedules. Go over high school cases during study periods throughout the day.

Sept. 22-,
Regularly scheduled conferences for speech correction work.

SAMPLE REQUISITION LIST

Quantity	*Item*	*Purpose*
2 reams	8½″ × 11″ paper	Correspondence, etc.
2 boxes	Manila folders	Case file folders
5	Note pads	
1 ream	8½″ × 14″ paper	Miscellaneous drills and assignments
5 each	'Ditto' carbon paper and master sheets	
8	Mimeograph stencils	Speech program forms
100 sheets	Public School stationery	State reports, letters to parents, etc.
50	Public School envelopes, stamped	
1 folder	Carbon paper	
2 pp. each	Construction paper (assorted colors)	

The above is a requisition list of materials such as a speech correctionist might wish to procure from the school system in which he is employed. This is representative of the forms that are furnished by the school system.

Form 1. Speech Correction Case File Card

Name.....
Birth date.....
Address.....
Telephone.....
Name of parent or guardian.....
School.....
Grade.....
Teacher.....

Description of disorder:

Remarks:

Date admitted:

Date dismissed:

.....
Speech Correctionist

The following suggestions with regard to the filing of speech correction case file cards may be found useful:

1. All schools in the system are filed together in the speech correctionist's office.
2. Cases are filed alphabetically by last name.
3. The case file is planned to contain active cases only.

Form 2. Speech Examination Report[1]

Name.....
School.....
Grade.....

Condition of speech mechanism:

Condition of hearing mechanism:

Speech history:

Immediate speech environments:

General abilities, achievements, and interests:

Speech disorder (voice, articulation, stuttering, cleft palate, cerebral palsy, aphasia):

Reaction to disorder; evaluation of emotional conditions:

Evaluation and prognosis:

.....
Speech Correctionist

Date.....

Form 3. Speech Correction Case History[2]

Name.....
School.....
Grade.....

Onset and development of disorder:

Status of disorder:

Linguistic development:

Speech environments:

Reaction to disorder:

General evaluation—impression:

.....
Speech Correctionist

Date.....

Form 4. Speech Correction Case Summary[2]

Name.....
School.....
Grade.....

Status of speech development:

Condition of speech mechanism:

Condition of hearing mechanism:

Intelligence:

Emotional factors:

Responses to corrective techniques:

Evaluation:

Recommendations and prognosis:

.....
Speech Correctionist

Date.....

Form 4 is to be filled out when the case is dismissed.

[1]The author is indebted for the formulation of Form 2 to: Dr. C. W. Edney, Head, Department of Speech, University of Florida.

[2]Forms 3, 4, 5, and 6 are adapted from forms originally prepared by Professor Grant Fairbanks, University of Illinois. Forms 5 and 6 are adapted from *Voice and Articulation Drillbook* (2).

Form 5. Voice and Articulation Examination Record Blank For Readers[2]

Name.....
School.....
Grade.....

Pitch 1234567[3]
- Too high level[4]
- Too low level
- Monotony
- Pitch pattern
- Other

Time 1234567
- Too rapid rate
- Too slow rate
- Staccato phonations
- Prolonged phonations
- Monotony
- Jerkiness
- Faulty phrasing
- Time pattern
- Other

Loudness 1234567
- Too loud level
- Too flexible
- Loudness pattern
- Too weak
- Monotony
- Other

Voice Quality 1234567
- Nasality
- Breathiness
- Hoarseness
- Harshness
- Other

Articulation 1234567
- Voicing errors
- Distortions
- Substitutions
- Generally inaccurate
- Fricatives inaccurate
- Slighting
- Omissions
- Other

Complex Attributes 1234567
- Mispronunciations
- Faulty emphasis
- Too even stress
- Affectation
- Foreign dialect
- Regional dialect
- Other

Articulation

1. (early)[5]	1. .....[6]	11.	21. .....
2. (*c*lark)	2.	12.	22. .....
3. (*th*eory)	3.	13.	23. .....
4. (brea*th*e)	4.	14.	24. .....
5. (a*ss*ume)	5.	15.	25. .....
6. (*z*one)	6.	16.	26. .....
7. (fla*sh*)	7.	17.	27. .....
8. (measured)	8.	18.	28. .....
9. (*wh*at)	9.	19.	29. .....
10. (wat*ch*ed)	10.	20.	30. .....
11. (*j*udge)			

Remarks:

Date.....

.....
Speech Correctionist

[3]The speech correctionist should use these numbers to indicate the approximate place on a scale the child's speech would fall regarding pitch, time, loudness, voice, articulation, and complex attributes. Number 1 on the scale indicates very poor, number 7 indicates very good, with degrees of gradation in between.

[4]Under the six aspects are listed certain divisions; the speech correctionist should check the appropriate one which applies to the case tested. Perhaps he will want to make a pertinent comment alongside this specific attribute. As the speech correctionist uses this form, as well as the others, he will doubtless come to deviate from these suggestions in order to feel more at home with these forms.

[5]These blanks are meant to be used with the speech test sentences which follow. The word for which the speech correctionist should listen specifically is listed in parentheses. If there is a subtitution of 'w' or 'l,' for example, in sentence number 2, this should be listed w/l. Other substitutions, omissions, or distortions should be listed in appropriate symbols from the International Phonetic Alphabet.

[6]These blanks are meant to be used with the speech test word list which follows. Each list contains a common sound for which the speech correctionist should listen for substitutions, omissions, or distortions of the one sound, as in the above list of sentences.

Form 5 may be used with the accompanying test.

SPEECH SOUNDS TEST[1]

1. Early every summer our barn is covered with brilliant red roses. The broad crimson roof draws birds from far and near.
2. Lawyer Clark held his little felt hat and his black gloves in his lap. He silently placed the will on the table.
3. We thought the theory about the death of the author was the truth.
4. They found that their father couldn't breathe in that weather.
5. The successful student of voice does not assume that practice inside of class is sufficient.
6. My cousin's play, "The Zero Zone," is pleasant and amusing, but it won't be chosen.
7. A flash of light showed the fishing ship in the shallows close to shore.
8. He measured the garage as usual before the explosion.
9. "What is that?" he whispered, as he heard a whistle somewhere.
10. He watched for a chance to chase the children out of the cherry orchard.
11. Judge Johnson objected because it was unjust to the soldiers in his region.

1. doing, coming, going
2. notice, kitty, metal
3. where, what, which
4. curl, burn, bird
5. them, then, than
6. thing, thank, thought
7. garage, rouge, camouflage
8. until, unless, unworthy
9. soda, sofa, china
10. dishes, fish, wish
11. ink, think, sink
12. eggs, leg, keg
13. measure, pleasure, treasure
14. ten, general, get, yet
15. farm, barn, cart
16. form, born, court
17. fellow, window, potato
18. bushes, push, cushion
19. town, down, out
20. hoist, boil, point
21. coil, oily, boil
22. last, just, next
23. kept, wept, crept
24. didn't, couldn't, hadn't
25. figure, regular, particular
26. familiar, brilliant, million
27. human, huge
28. singer, hanging
29. law, saw, idea
30. two, do, shoe

[1]This test is adapted from *Practical Voice Practice* (**1**). An alternate test for Primary Readers may be found in *Voice and Articulation Drillbook* (**2**).

While the above test has limited uses, it is inserted as a type of test that can be given to children at the junior high school level, for example, and to those in the lower grades if the children have reading ability which allows them to read the words with facility. In public school work, however, the speech correctionist often may find it necessary to give a speech test through conversation and pictures with children through the sixth grade whose poor reading ability would invalidate a word and sentence test for speech. This test may be used conveniently with Form 5.

Below is a phonetically-balanced reading passage that can be used for a variety of purposes to supplement speech exercises and for the testing oral reading. Since this passage contains all of the sounds in the English language, it may be used conveniently both with articulation cases for a particular sound and with stuttering cases for experimenting on the number of words stuttered.

ARTHUR, THE YOUNG RAT

Once, a long time ago, there was a young rat named Arthur who could never make up his flighty mind. Whenever his swell friends used to ask him to go out to play with them, he would only answer airily, 'I don't know.' He wouldn't try to say yes, or no either. He would always shirk from making a specific choice.

His proud Aunt Helen scolded him: 'Now look here,' she stated, 'no one is going to aid or care for you if you carry on like this. You have no more mind than a stray blade of grass.'

That very night there was a big thundering crash, and in the foggy morning some zealous men—with twenty boys and girls—rode up and looked closely at the fallen barn. One of them slipped back a broken board and saw a squashed young rat, quite dead, half in and half out of his hole. Thus, in the end the poor skirker got his just dues. Oddly enough his Aunt Helen was glad. 'I hate such oozy, oily sneaks,' said she. (**2**, 422)

Form 6. Voice and Articulation Examination Record Blank For Non-Readers[2]

Name.....
School.....
Grade.....

Pitch 1234567[3]
- Too high level[4]
- Too low level
- Monotony
- Pitch pattern
- Other

Time 1234567
- Too rapid rate
- Too slow rate
- Staccato phonations
- Prolonged phonations
- Monotony
- Jerkiness
- Faulty phrasing
- Time pattern
- Other

Loudness 1234567
- Too loud level
- Too flexible
- Loudness pattern
- Too weak
- Monotony
- Other

Voice Quality 1234567
- Nasality
- Breathiness
- Hoarseness
- Harshness
- Other

Articulation 1234567
- Voicing errors
- Distortions
- Substitutions
- Generally inaccurate
- Fricatives inaccurate
- Slighting
- Omissions
- Other

Complex Attributes 1234567
- Mispronunciations
- Faulty emphasis
- Too even stress
- Affectation
- Foreign dialect
- Regional dialect
- Other

Articulation Errors

Vowels:
Consonants:
Diphthongs:
Remarks:

.....
Speech Correctionist

Date.....

This form should be used with picture tests for speech, but it can be used with reading passage speech tests as well.

Form 7. Speech Correction Lesson Log Sheet

Name.....
School.....
Grade.....

Date	*Lesson Materials*	*Assignment*	*Progress*

.....
Speech Correctionist

Some speech correctionists prefer to keep individual lesson records in this fashion in each case's personal folder. Others prefer to use a regulation teacher's plan book which combines lesson plans for the entire class and record of what was done. If the Form 7 type of record is kept, one week's work with each child can easily be recorded on a sheet of standard typewriter paper which has had this form 'dittoed' on it.

Form 8. Speech Correction Work Report, First Semester Summary, 1947-1948

Name.....
School..... Grade.....
Date..... Teacher.....

.....
Speech Correctionist

This is meant to be a general summary of the techniques employed and of the child's responses and progress while doing speech correction work. For some children this report will be comparatively brief (about one half page), while for others it may be much more lengthy. Previous records of this general nature should be made available at all times to parents, teachers, and professional colleagues, Records of this kind serve the purpose of helping the speech correctionist to take stock of work done and to plan the next remedial line of attack. Similar records should be made at the end of the year.

Sample Letters To Parents

Letters concerning a child's progress should be sent when a personal interview would have been difficult to arrange. Never substitute letters for personal interviews with parents when they are necessary. The following are sample letters:

Dear Mr. and Mrs. Jones:

We have had Johnny, along with many others, in speech classes at Central School for a few times. Such classes will continue only if you feel there is no reason (and we are not aware of any) why Johnny should not come to speech class twice a week for a twenty-minute period.

We wish neither to minimize nor to over-emphasize any child's need for speech classes. However, we have seen outstanding results in a comparatively short time with many children. Your child is yet so young that speech classes will be able to do more now than they might in a few years when the habits become stronger. We will be working on *l* at first, and then on the *er* sound, to get them plainer.

I shall be very glad to talk with you and to explain what we are doing any time you drop in. If anything comes up in the lesson periods with which you can help at home, I shall get in touch with you.

Johnny will undoubtedly report to you what we are doing, period by period. If we do not hear from you, we shall continue to have him in our speech class for a short time at least. Please visit the group Johnny is in at your earliest convenience; we'll be looking forward to your visit.

Most sincerely yours,

Speech Correction Instructor
for the Schools

To the parent addressed:
Your child is being seen at..... School for work on the following sounds:
The time is:
We would like very much to have you visit us to see what we do. Please feel free to drop in any time during the above period.

Sincerely yours,

Instructor in Speech Correction
for the Schools

Sample Letters To Teachers

A copy of the following letter was sent by the present writer to English teachers in the junior and senior high schools for their appraisal of *selected* students. Replies helped to determine some of the high school case load. The more serious deviates as reported by the survey were called in for personal interviews. Personal conferences with high school teachers were arranged. Such a letter as this would not be needed, of course, if the survey had been done by speech pathologists and had been done recently. Unfortunately some speech correctionists find themselves in a speech correction program where this kind of a 'survey' has been done by regular teachers or has been done quite a long time past.

To the Teacher of.....

This student was reported in a speech survey made a few years ago

as having a slight speech deviation. From what I can learn, I would imagine it might have been something which would have righted itself by now.

This student has no study period during which I am free at the present time, and I would not want to call a student in for a speech interview if there is not now enough of a deviation to make a difference in the child's speech.

Would you please write on the back of this sheet (and put it in my box) whether you notice anything different about this child's speech at the present time or about his way of reacting to speaking situations? This will, of course, allow me to meet those students in the grade and high schools who need as much time as possible, without having to interview a child who happens to have corrected that *s* sound or whatever it was between survey time and now.

Thanks so much.

Sincerely,

(Signed)
Speech Correctionist

Some speech correctionists prefer to consider speech correction for the kindergarteners only if the kindergarten is organized on a 'reading readiness' plan. It seems best to the author, however, to consider cases according to individual need. As the speech correctionist gets to know kindergarten teachers and talks with them about what to look for, and as the kindergarten teachers come to know the home situation, parents, and children, the speech correctionist may then best determine the children in the kindergartens who most need speech therapy.

SAMPLE LETTER TO KINDERGARTEN TEACHERS

To the kindergarten teachers:

The speech correction program in the kindergarten classes will be carried on again this year through the teacher referral method. It is presumed that some 'articulation' errors of kindergarteners will right themselves through learning by imitation. Those with *enough of a deviation*, however, *to make a difference* should be referred by their teachers and will be met by the speech correctionist according to their needs as the school year progresses.

(Signed)

Speech Correctionist

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Investigations of the reprints of the American Speech and Hearing Association, State Health Departments, Psychological Services, State Departments of Education, etc., will reveal many publications of value to the speech correctionist. This information generally has the three-fold advantage of (1) being easily accessible, (2) including the latest research findings, and (3) being distributed at no cost or at small cost.

CONCLUSION

The above suggestions are not presumed to be the final presentation of the way to organize public school speech correction program. It is known, however, that they are functional. Much more must be done to facilitate and accelerate speech correction work in the public schools. It is hoped that much more research will be done. In the expanding field of public school speech correction, it is necessary that the programs be practicable and vital to educational development.

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Speech and Hearing Therapy in the Public Schools of Ohio

Ruth Beckey Irwin*

SINCE October, 1945, the Ohio program in speech and hearing therapy has expanded considerably. In a previous article (2), the special education law was explained, several Ohio speech and hearing surveys were reported, and the five principal problems in the growth of the program were outlined. The purpose of this discussion is to outline the practices and procedures for the organization and execution of speech and hearing therapy programs in communities where qualified therapists are available.

Growth of the Program

Before October, 1945, only seven public school speech therapists were employed in the state of Ohio. Four of these therapists were working in the schools of Cleveland, which has had a program of speech correction since 1918. Only one therapist was working in Cincinnati, where there has been some speech correction work in the public schools since 1912. Dayton began speech correction in 1944 with one therapist. Akron's speech program was started in 1937, and by 1945 four speech teachers were employed to give instruction in speech improvement and speech correction in the city schools. Since each speech teacher in Akron was devoting only 25 per cent of her time to speech correction, the equivalency of one full-time therapist was employed.

With the additional provisions made to the special education law in 1945 by the Ohio legislature, interest developed in speech and hearing therapy. Greater demand existed than available therapists. However, before the end of the first year, spring of 1946, 18 full-time therapists were at work. By the fall of 1946, 25 therapists, 10 of whom had special certificates in speech and hearing therapy, were employed. In the fall of 1947, 36 were working. Nineteen of the therapists had special certificates in speech and hearing therapy, five of whom were clinical members and three of whom were associates of the American Speech and Hearing Association. Eight of the group had special certificates in speech and nine or 25 per cent had temporary certificates. Temporary certificates are not granted to any candidate who does not have most of the required courses completed. Fully qualified therapists holding special certificates in speech and hearing therapy have had the equivalence of 30 semester hours in specified speech and hearing courses and 15 semester hours in psychology.

By September, 1948, 46 therapists were employed in Ohio. Thirty school districts have the services of a speech and hearing therapist. Since five universities of the state offer full curriculums for training speech and hearing therapists, temporary certification will soon be unnecessary.

During the school year 1946-47, a school population of 73,881 was served, with 3,211 or four per cent of the children receiving speech and hearing services. In 1947-48, a school population of 102,525 was served, with 4,210 or four per cent of the children receiving therapy. Each therapist

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served a school population of approximately 2,848. The largest school population served by any one therapist was 5731. Thirty-six therapists in 1947-48 traveled to 174 school buildings, averaging approximately four buildings per therapist.

For the most part, the salary of the speech and hearing therapist is determined by the regular teaching salary schedule. Usually, a differential of $150 is allowed. Sometimes, travel allowance between schools is made. During the school year 1946-47, the salary range was $1947 to $4000 with an average of $2847. In one instance, a beginning therapist with a special certificate was paid an annual salary of $3000. Occasionally, boards of education are willing to arrange salary without reference to the schedule. The law of supply and demand sometimes determines the salary of the therapist.

In Ohio, usually less than half of the salary of the therapist is subsidized by the state. The speech and hearing program is a cooperative undertaking between the state and the local boards of education. The Division of Special Education assists the local communities whenever possible in the planning and execution of the speech and hearing program with a policy of 'recommending' rather than 'dictating.'

Before state subsidy ($1000 per teacher unit) is assured to a school community, a preapproval form must be filled out and returned to the Division of Special Education. To be approved, the board of education must indicate in their plans that they will attempt to follow recommended procedures in establishing speech and hearing programs. Recommendations have been outlined and discussed in a recent bulletin (**3**) issued by the Division of Special Education.

Development of the Program

Finding a qualified therapist is the first step in the development of a successful program. Many of the therapists are inexperienced and, with the exception of some of the large cities, the therapist must work and plan without much assistance. Her duties are numerous, varied, and time-consuming. Consequently, the selection of the right candidate for the development of the new program in any community is very important. Among the principal duties of the therapist are:

1. To survey and ascertain speech and hearing needs of the school community.
2. To schedule appointments.
3. To consult with parents, teachers, doctors, nurses, principals, and others regarding the welfare of the child.
4. To supervise hearing conservation programs.
5. To give inservice training to teachers by conducting lecture and demonstration meetings.
6. To give speech and hearing therapy.
7. To keep adequate records and reports.

In several of the larger cities, a director of special education has been designated as administrative official in charge of the speech and hearing therapy program. In one city, an experienced therapist is allowed a day a week to visit and help young therapists with their work. This plan appears to be a practical one, since many administrators are unable to know or to do all of the professional details involved in speech and hearing therapy. In small communities, the therapist is responsible to the elementary supervisor or to the superintendent.

Finding children for speech and hearing services: Teacher referral has been a popular method of screening children for speech and hearing examinations. Final decision for enrolling children for speech and hearing therapy is made by the speech and hearing therapist. To consider the prognosis of all serious cases, the therapist is advised to counsel with a committee of three persons selected from the following personnel: psychologist, a teacher of the deaf, physical therapist, nurse, or physician.

In a previous article (**2**), results of

surveys in three Ohio cities were included. According to the 1948 annual report, over 12,000 children were given individual speech tests. Most of these children had been referred by regular classroom teachers. The speech therapist selected children from the teacher referral group for class placement. The speech and hearing program is so new in most communities that no particular method has been established for finding speech and hearing defective children.

Almost all of the therapists give individual speech tests to all children in the school population which they serve as soon as possible after the beginning of the program. After the first complete testing has been made, a plan is developed whereby certain grades are tested routinely each year. In Akron, where a program has been operating almost 10 years, all children in the first and second grades of each building visited by a therapist are given speech tests. In another city, the therapist checks all second, sixth, and seventh grade pupils and those repeating the first grade. One therapist tests the children in the kindergarten, and grades one, three, and five. In addition to testing all of the children in certain grades each year, the therapist depends upon the classroom teacher to refer cases needing speech or hearing therapy.

Although some of the therapists have given complete audiometric examinations to all children in order to find children for the speech reading classes, many hard of hearing children are found by teacher referrals. The speech and hearing therapist usually gives audiometric threshold tests to all children the teachers suspect to be hard of hearing. By means of the hearing testing program of the Ohio Department of Health, many hard of hearing children have been found.

Hearing conservation programs have been developed in many communities where no speech therapist is employed. However, when a well-planned medical program follows audiometric testing, many children will have their hearing corrected or improved and therefore not need special education. A printed bulletin (4) issued by the state health department on suggestions to teachers and parents is a valuable contribution to communities where no speech and hearing therapist is available to interpret the educational program.

Case load: According to the bulletin, *Special Education for Children with Speech and Hearing Disorders* (3), 'a speech and hearing therapist should probably not handle over 75 children in her case load.' During the school year, 1946-47, the average case load was 103, with 50 as the smallest case load and 275 reported as the largest case load. In 1948, the annual report indicated that the average case load had been reduced to 94, with 243 as the largest load. With the exception of one therapist, all reports indicated case loads of less than 112.

In the two-year period, 1946-47, approximately 60 per cent of the cases were boys. Approximately 75 per cent of the case load were functional articulatory cases and only five per cent of the cases were organic articulatory disorders. Eleven per cent of the group had nervous speech disorders. About 4½ per cent of the children were enrolled in lip reading classes. However, only 18 or half of the 36 speech and hearing therapists taught lip reading. Voice cases composed about 4½ per cent of the group. Many therapists report no cases of voice problems at all. Probably attention has been centered on functional articulatory disorders to the exclusion of voice cases.

Scheduling of classes: To serve the needs of children with speech and hearing disorders in large communities with a limited number of therapists is a difficult adminstrative problem. Occasionally, a board of education desires

that the therapist try to see all of the children with speech and hearing defects in the school community. In order to handle 75 to 100 cases, the therapist needs to group five to 10 children in some groups. During 1946-47, the average size of the groups was 4.8. The size of the largest group reported was 14. In 1947-48, the average number of children handled in a group was eight. The average number of cases handled individually per therapist varied from nine to 13 in the two-year period.

During the 1947-48 school year, 34 therapists met children twice weekly in an average of 30-minute periods. Only two therapists met children less than twice weekly.

Rooms: Overcrowded school buildings in many districts present 'housing problems' for the speech and hearing therapists. In a few instances, the therapist must move every hour in order to find a workroom. According to the annual reports the most popular speech room was the 'empty or vacant' classroom. Other rooms available in order of frequency mentioned were: teachers' rest rooms, nurse's room, library, lunch room, auditorium, kindergarten room, principal's office, music or arts room, P.T.A. room, part of the gym, physical therapy room, dining room, stage dressing room, stockroom, and 'wherever I can.' Only six rooms out of 174 were set aside especially for speech and hearing therapy.

Although abandoned basements, hallways and classrooms may be available, the extreme barrenness of the rooms is often depressing. Therapists have been encouraged to make their rooms as attractive as possible even though it may mean taking down pictures at the end of a few hours. In large cities where personnel is limited, the schools with satisfactory rooms available for the therapist are often given priority for services.

Recommendations indicate that, when possible, a room should be selected with the following characteristics:

1. Easily accessible.
2. Well lighted, ventilated, heated, and quiet.
3. Attractively decorated.
4. Equipped with chairs and tables of various sizes.

Equipment and supplies: Within the last year, budgets have been established in several of the large cities for speech correction and hearing therapy materials. One board of education has set aside $75 yearly for each therapist to use for the purchase of speech correction and lip reading instructional materials. In many communities, service organizations have been generous in furnishing expensive equipment, such as audiometers and recording machines. Six therapists have access to the use of two types of portable recording machines and an audiometer; seven therapists have audiometers; two therapists have an audiometer and one type of recording machine; and one therapist has only a recorder.

In answer to inquiry concerning 'needs and wants,' the public school therapists indicated most frequently the following:

'place in each building to call my own'
large and small mirrors
recorder
audiometer
filing space or steel cabinet file
games and toys
cots
bulletin board
space to store equipment
better lighting
tongue depressors
'space and equipment for lip reading and auditory testing'

Coordination day: Wednesday is used by 18 therapists for coordination day activities. Friday is the next most popular day. Wednesday is usually preferred for coordination day since scheduled classes can be arranged more advantageously for the remaining days of the week. Classes meeting twice a week may be scheduled, Monday and Thursday, and Tuesday and

Friday. Such distribution allows for uniform intervals between therapy periods.

A full day for coordination day activities in communities where the therapist is doing both speech and hearing therapy is recommended. Eleven therapists use one full day at the present time. Only two therapists reported no time allowed for coordination activities. The principal activities of the day include: additional therapy time for individual cases who are not progressing with the two regular therapy periods; conferences with parents, teachers, nurses, and principals; home visits; visits to the classrooms to observe effectiveness of speech therapy; individual diagnostic speech and hearing tests; surveys; and inservice speech training of teachers. For almost all of the therapists, coordination day is the busiest day of the week.

According to the annual reports in 1947, seven therapists made 192 home visits. During 1947-48, 26 therapists made 369 home calls. As much as possible, the therapist encourages parents to visit the school to observe speech correction and lip reading instruction. In some cases, home visitations are considered advisable. In many places, psychologists, visiting teachers, and nurses aid the speech therapist considerably in learning facts about the child's home life. Coordination day is a day for working and cooperating with all agencies and individuals interested in the welfare of children with speech and hearing disorders.

Inservice training: In order for the speech and hearing program to succeed, some plan needs to be made for the inservice training of teachers. Since little emphasis has been placed on speech education in the past, few teachers have had any courses in speech. The trend in Ohio is toward requiring prospective teachers to take speech correction courses. In the meantime, many teachers already in the field desire help with their speech problems.

Various plans have been tried for training teachers in communities where speech and hearing therapists are employed. In one of the most interesting programs of inservice training, three speech seminars were held monthly in each of three schools. Two conference hours plus reading of four selections from a bibliography were required for professional credit. Eleven professional speakers were secured to conduct the various aspects of the course.

Almost all of the public school therapists hold at least one meeting at the beginning of therapy in a new school. The speech and hearing program is explained, and instructions are frequently given on how the classroom teacher may help. Since the first year is a busy one for the inexperienced therapist, many therapists do not attempt to give any extensive inservice training. It is hoped that the teacher education institutions will include in their curriculum for the training of speech and hearing therapists some instruction which will help the prospective therapist to train classroom teachers in speech education.

Methods of Therapy

Methods of therapy used in the various speech correction and lip reading classes in the state of Ohio would fill the pages of another paper. Methods of instruction vary, of course, as the training of therapists vary.

Group versus individual method of instruction creates some discussion. Many therapists trained in college clinics find group therapy difficult because most of their training was with individual children. Public school speech correction requires the handling of several children at a time. Group work can be used to great advantage after the child has learned how to make the sound. Group work is also effective during the ear-training period. The therapist usually finds she has to give some individual therapy even though children are scheduled in groups.

Techniques for working with children in groups need to be improved. The use of games and motivating devices may frequently interfere with speech correction. Choral reading, if not used properly, may be simply reading together with the teacher's voice louder than the children's voices —and with the speech defects becoming more established than ever.

In one area of the state, the 'conversational pattern' technique of group instruction has many enthusiastic advocates. This particular method has already been adequately discussed by Backus and Dunn (1). Therapists using the 'conversational pattern' method of instruction find little need for 'traditional' lists of words or the numerous devices that many public school therapists seem to require. The 'conversational pattern' method certainly has a place in public school speech correction and lip reading instruction work, especially at that stage in speech correction when the children need an opportunity to practice speech in everyday situations.

Some of the speech therapists in the state give psychological emphasis to their speech correction work. Play therapy is used with many groups, especially with children who have nervous or inhibited speech symptoms.

Results of Therapy

During the two-year period, 1946-48, 2456 or 33 per cent of the total number of children treated were considered corrected. Thirty-eight per cent of the children enrolled in the speech and hearing classes were greatly improved by the end of the year's therapy period. Only 19 per cent of the children were found to show little or no improvement.

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Book Reviews

Ernest H. Henrikson Editor*

AINSWORTH, STANLEY. *Speech Correction Methods, A Manual of Speech Therapy and Public School Procedures.* New York: Prentice-Hall, Inc., 1948. Pp. 149.

As the subtitle indicates, this publication is written in manual style. Part I, in this reviewer's estimation, is the stronger section and fills a need heretofore unmet in speech correction literature; namely, a method of organization of speech correction programs in public schools. School administrators planning development of such a program and all speech correctionists faced with organizing a new corrective speech program would find this section most helpful. Guides for survey testing, sample case history forms, determining case load, gaining classroom teacher support, and winning parent cooperation are fully and excellently covered.

The state certification requirements are discussed, but no warning to study state laws in regard to types of speech cases covered by said legislation is made. This varies from state to state so should be given emphasis, e.g., some states will not help finance time spent in speech improvement classes, some cover only costs of rehabilitating the physically handicapped or organic speech defects, others cover all speech correction and hearing therapy. This phase of legislation could well be included since familiarity with the law can avoid loss of state reimbursement because of legal technicalities.

Part II of the book deals with *Speech Therapy*. This section would be helpful to the well trained speech clinician in that it gives some practical and new suggestions for working with specific sounds. Disproportionate emphasis is given to the placement method rather than visual or oral stimulation, so the book might do more harm than good in the hands of the classroom teacher or layman. For the experienced, trained clinician, however, such teaching devices are interesting, helpful and safe.

One limitation of the manual lies in the fact that only phonetic symbols are given for some sounds such as the voiced and unvoiced *th*. This would confine its usefulness to the phonetician because many 'students, teachers, and speech clinicians' cannot read phonetic symbols.

In summary then, the book, *Speech Correction Methods,* presents a complete flexible outline for organizing public school speech correction programs. It has an appendix with fine sample speech forms. It has a number of devices for speech therapy. Certainly every teacher training course in speech pathology should include the study of this manual.

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Indiana University

FESSENDEN, SETH A. *Speech and the Teacher.* New York: Longmans, Green, 1946. Pp. 290.

This book deals with the needs of the teacher who is not primarily interested in speech. It discusses first the teacher's personal needs in developing his own speech if he is to be an effective teacher and, second, the importance of understanding the speech needs of the student as well as being able to offer some practical assistance in training the student's speech.

The book is written in a simple and interesting style which should be readable for freshmen and sophomore college students. The author uses many helpful illustrations from outside sources as well as numerous practical suggestions of his own.

The content of the book is as follows:

Teaching and the Teacher: An effort is made to present a philosophy of teaching. Also, the teacher's personal characteristics are divided into many general areas such as 'reliability' and 'industry,' in which practical suggestions on pros and cons are offered.

Speech and the Teacher: Much of learning is dependent upon communication of ideas through the medium of language. Most of the communication is in an oral form, hence the teacher must be skilled in speech. The need for effective listening is stressed, with some suggestions as to how to achieve common ground between the speaker and the listener. Pleasantness of speech is considered at some length with various aspects of voice and articulation used in achieving this goal.

Voice and Articulation: The fundamentals of breathing, phonation, and resonation are presented briefly, followed by a

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description of speech sounds. The nature of defects in articulation and pronunciation are discussed. Many usable illustrations are given. Some suggestions are given for individuals who wish to improve their voice, articulation, and pronunciation.

Teaching with Speech: The objectives of teaching are divided into: (1) facts to be learned, (2) ability to be increased, (3) subject matter to be understood and evaluated, and (4) subject matter to be appreciated.

Suggestions are made for dealing with these objectives from the point of view of speech. Special stress is given to the last two objectives. A special area is set aside for discussing both the listener's and the teacher's problem when radio is the medium of exchange.

The Teachers' and the Students' Speech: The thesis is proposed that all teachers should be interested in developing their students' speech skills and should, therefore, have some basic knowledge of speech fundamentals. The general teacher should not assume responsibilty for treatment of major voice, rhythm, and articulation problems; instead, his contribution to speech education should be in the areas of social speech, semantics and clarity of speech. A number of suggestions are made regarding the latter area in terms of limited corrective and speech improvement methods.

Promoting Pupil Growth: Extra-curricular activities are presented as a major method in developing the pupil. Suggestions and procedures are discussed for the development of conversation, interviewing, and interviewing with sales as the goal. Much time is devoted to a discussion of how to develop clubs, the goals, and probable achievements.

Group Discussion: The most valuable achievement of our educational program is the ability of a person to participate effectively in group discussions. With this assumption, the author explains the purpose for which a group discusses a problem, the choice of a subject, the selection of participants, the necessity of having a leader.

Public Speaking: In this chapter a brief but effective summary of public speaking is presented. It attempts to offer suggestions as to how the student teacher can improve his own speaking ability, rather than attempting to offer methods of teaching public speaking.

The book is brief, well-organized, and clear in its presentation.

ROBERT MILISEN

Indiana University

FROHMAN, BERTRAND S. *Brief Psychotherapy*, Philadelphia: Lea and Febiger, 1948. Pp. 265.

Although Dr. Frohman says, 'This Handbook on the Clinical Aspects of Neuroses was planned and written to aid physicians in detecting and managing the underlying psychological factors which are masked by functional disturbances,' it contains much valuable material for students of speech pathology, particularly those who plan to specialize in the treatment of stutterers, aphasics or hysterical aphonics. Dr. Frohman does not take up the subject of stuttering, except in an offhand way, but the emphasis he puts on psychological mechanisms and their relation to somatic disturbances has bearing for those who must learn to diagnose the causes of stuttering.

According to a recent release from the office of the director of the American Medical Association, there are scarcely 3,500 wholly qualified psychiatrists in the country to look after the mounting caseload of neurotics and psychotics. Dr. Frohman believes that the family physician will have to share the case-load. It is he who will have to familiarize himself with the diagnosis and therapy of the common neuroses.

The book takes up the problem of anxiety and its various manifestations in a lucid way. Definitions are clear and fortified with illustrative case histories, 100 of them to be exact. Although Dr. Frohman is a psychoanalyst, he also discusses the contributions made by *active psychotherapy*, ('the author's designation for a brief and flexible method utilized in selected cases which do not warrant a deep investigation or re-education of the total personality'), general semantics, electro-convulsive therapy, hypnotherapy, narcosynthesis, etc. Speech students may find the section on general semantics disappointingly short.

There is a good bibliography of about a hundred items in the back of the book and also a 'Glossary for Patients.' I shall add the book to my list of recommended collateral readings for students of speech pathology and mental hygiene.

JAMES F. BENDER

National Institute for Human Relations

GALDSTON, IAGO. BAUER, W. W., KUBIE, LAWRENCE S., and MEAD, MARGARET. *Motivation in Health Education*. New York: Columbia University Press, 1948. Pp. 53.

This little book presents four papers prepared for the 1947 Health Education Conference of the New York Academy of Medicine. Dr. Galdston's paper, 'The Problem of Motivation in Health Education' presents 'the history of the idea of

motivation and the varied forms in which it appears in those systemitized rationalizations which make up the story of philosophy and religion.' In his 'The Changing Patterns of Motivation,' Dr. Bauer 'describes the manifestations of that evolving idea in human conduct, showing the crude way in which fear and shame cause exaggerated phobic and equally exaggerated compulsive distortions of principles which in themselves are essentially sound.' The third paper by Dr. Kubie, 'Myths and Resistances in Health Education,' 'undertakes to show the universal origins in childhood of the psychological forces which distort our unconscious attitudes to sickness and health and how these buried residues of childhood experiences have been incorporated into the legends and myths which cluster around our ideas of hygiene.' 'Positive Motivation in Health Education,' by Dr. Meade, presents the contributions of anthropologists to the subject. 'The anthropological contribution to problems of this sort is the delineation of the particular cultural milieu within which the children to be educated and the adults who will educate them have been reared. An understanding of the cultural pattern—provides a framework within which it is possible to develop an educational program which has strong positive appeal.'

Speech pathologists should read these papers; this reviewer believes they will find them interesting and valuable. Speech people will find a delightfully written exposition of man's past and present patterns of motivation as they apply to a field closely related to speech correction. Furthermore, they will be able to make many cross-comparisons with problems that are constantly present in speech correction. The dynamics of a shifting pattern of social motivation; the influence of past and present social attitudes; the significance of deep-rooted personal motivations—all these have as great importance in the improvement of speech as they have in the improvement of health.

ERNEST H. HENRIKSON
University of Minnesota

Your School District. The Report of the National Commission on School District Reorganization. Washington, D. C.: Department of Rural Education, National Education Association, 1948. Pp. 286.

A reflection of widespread and acute interest in school district reorganization is the publication of this book late in 1948. It is the most comprehensive compendium of information and expert opinion available on the subject. The Commission which produced the report was made up of nine men who are unquestionably authorities on district reorganization, headed by Floyd W. Reeves of the University of Chicago, and Howard A. Dawson of the Department of Rural Education and Director of Rural Service of the N.E.A.

The report is divided into two major parts. Part I is a series of ten chapters on school district organization and reorganization in general. The present status of district organization and the need for reorganization are discussed in the first five chapters, with a large mass of supporting data in sixteen excellent tables in the Appendix. Then follow five chapters on the characteristics of effective districts, problems of finance, legislation, methods of achieving reorganization, and a recommended program for action.

To readers of the *Journal* probably Chapter VI, 'Characteristics of Effective School Districts,' will be most interesting and relevant. Special education in speech, as well as in many other fields, simply cannot be furnished adequately with the present 'small district' system, with approximately 100,000 independent units. Not even a limited program of schooling of defensible quality can be managed. Everyone interested in improving the quality of ordinary schooling has a stake in district reorganization. Those who work in special education have an even greater stake.

To illustrate what has been accomplished, Part II of the report submits in some detail the results of reorganization movements in seven states (Arkansas, Illinois, Iowa, Kansas, New York, Washington, West Virginia), with a chapter devoted to each state. In some cases, achievement is rather limited, as in Illinois, but definite procedures are being followed. In Washington and West Virginia, reorganization has already been substantially attained. The final chapter briefly notes accomplishments in ten other states.

In about half the states, district reorganization is a major problem of state educational administration. The appearance of this book is most timely. It should help greatly to keep interest in the problem at a high pitch, and prove to be genuinely useful to educators and legislators who are attempting to improve conditions in their own states.

CALVIN GRIEDER
University of Colorado

JOURNAL OF SPEECH AND HEARING DISORDERS, 1949, **14**, 72-76

Abstracts

Mary Huber, Editor*

ARTHUR, G. Pseudo-feeblemindedness. *Amer. J. ment. Def.*, 1947, **52**, 137-142.

In the State Public School of Owatonna, Minnesota, those committed to the care of the state as feebleminded are given a complete re-examination as they become 21, to judge whether the adjustment of each has been such that he can now be diagnosed 'not feebleminded.' Some of those classified as feebleminded at first include individuals actually lacking in special abilities which has been confused with poor general ability (individuals with delayed speech, for example), individuals with partial intellectual deficiency, individuals with delayed mental development due to severe illness, and those with physical handicaps, such as impaired vision or hearing, which interfere with standard methods of measuring intelligence.

Mental deficiencies are diagnosed, in all too many cases, on the basis of language abilities. Children with delayed mental development due to severe early illness need to be taught the ordinarily acquired skills, like speech, in order to catch up to the level attained by normal children. It is found that after special help children of this type will tend to rate higher and more nearly normal on the Stanford-Binet scale. Speech defects are so characteristic of the feebleminded that it is no wonder that those whose unclear speech persists into higher school levels are suspected of mental deficiency. With specialized teaching, these pupils can make a more comfortable adjustment to the demands of society. (*Muriel Albert, Brooklyn College.*)

BLACK, J. W. Training for voice communication at high altitudes. *J. Aviation Med.*, 1948, **19**, 34-38.

A wartime research project demonstrated that voice communication over airplane radio and intercommunication systems could be improved. A four hour training program was developed that could be handled by inexperienced instructors and produced marked improvement in intelligibility. The procedures for studying voice communication and related training at ground level were extended to include the circumstances of pressure altitude.

Efficiency in communication varies inversely with pressure, with reduction from normal or ground level pressure. Experiments were conducted in pressure chambers and in bomber-type aircraft in flight to see whether single voice variables or mannerisms in talking contributed to effective communication. Deviations from the normal in pitch, loudness, and articulation were studied.

In general, no advantage resulted for any change from normal pitch. A twenty to thirty minute period of training under low-pressure conditions in which indoctrinees were drilled in loud, slow, clear speaking produced significant improvement. 'Trial flights' showed the practicability of including voice-communication training in the 'indoctrination flights' in altitude chambers. It was found that chamber operators, with the aid of a voltmeter and brief indoctrination, could handle the voice communication program. (*Juliet H. Lewis, Brooklyn College.*)

CORLISS, E. L. R., and COOK, G. S. A cavity pressure method for measuring the gain of hearing aids. *J. acoust. Soc. Amer.*, 1948, **20**, 131-136.

The gain of a hearing aid can be measured by a cavity pressure technique. The chief advantages of the method are its compactness and simplicity. Results of measurements are equal in validity to those obtained by the more familiar free field method. A study of the properties of the method shows that a pressure gain measurement is approached. This property may prove to be valuable in permitting the specification of an inherent pressure gain for a hearing aid. The effects of external conditions such as the geometry of the case, the size of the body baffle, and filtering through clothing may be determined by separate investigations. These generally applicable data might be incorporated in the specification for pressure gain. It should not be necessary to measure them for each instrument since they are the same for all hearing aids. The separation of the problem of determining the actual gain of a hearing aid as worn into a pressure gain measurement, objectively reproducible, and a study of body diffraction and ear impedance, which are independent of the intrinsic properties of the aid, appears to be desirable and useful. (*Melvin Hyman, Brooklyn College.*)

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FROESCHELS, E. A practical method for checking progress during the treatment of sigmatisms. *Practica oto-rhino-laryngologica*, 1947, **9**, 358-364.

In the course of treatment of any form of sigmatism, regardless of the therapeutic method used, there may be manifested, according to the author, one of two intermediary steps. In one instance, there is an over-contraction of some muscles of the tongue which does not lead to the desired aim of a normal [s]. In the second case, there is too much relaxation of some tongue muscles. This type can, more easily than the first, be developed into a normal [s]. To determine whether the intermediary step will hinder or favor progress, the following method is recommended. The therapist executes, with his thumb, an upward pressure against the bottom of the mouth at the midline close to the inner edge of the horizontal part of the lower jaw. If the [s] sounds sharp it proves that the intermediary step is useful; if not, then overcontraction of the tongue muscles is present and will prevent the developement of a correct [s]. (*Phyllis E. Paull, Brooklyn College.*)

GOODFRIEND, D. J. Deafness, tinnitus, vertigo, and neuralgia. *Arch. Otolaryngol.*, 1947, **46**, 1-35.

Deafness, tinnitus, vertigo, and neuralgia are auditory symptoms that may be caused, aggravated, or predisposed by abnormal dental bites. Studies over a period of 22 years at the University of Pennsylvania show a constant correlation which establishes the validity of the hypothesis that abnormal dental bites cause abnormal relationships and traumatic movements of the mandibular joints which, in turn, injure, deform, and degenerate the auditory meatus, the middle ear, and the eustachian tube.

A bite that does not move freely with the teeth in contact is traumatizing to the mandibular joints and the ears. A bite that causes overclosure of the jaws causes abnormal relationships of the joints to the ears. A bite that protrudes the chin or causes retrusion also may cause abnormal joint-ear relationships. The same may be said of bites in which there has been loss of posterior teeth resulting in inadequate support of the jaw, and of bites causing severe attrition. Diagnosis and treatment of bite and mandibular joint abnormalities is discussed and 33 original and 2 other illustrations are included. (*Frank Robinson, Ohio State University.*)

HARKINS C. S. Cleft palate rehabilitation by prosthesis. *J. Rehabilitation*, 1947, **13**, 6.

Though surgery is widely accepted as the only means of aiding cleft palate cases, especially those needing repair of the lip and gum ridge, there are some instances in which oral prosthesis is the preferred, if not the only method for palatal cleft therapy. Where surgery has failed, prosthetic devices have succeeded in artifically dividing the nose from the mouth, restoring the dental arch in functional occlusion, and restoring the contour of the upper lip by replacement of missing teeth and plumping of the gum ridge.

Because the prime function of a prosthesis is its use in the betterment of speech, it is called a speech aid, rather than an obturator or appliance. Following the acquisition of a speech aid, the social rehabilitation of the patient is continued by a program of speech and mental hygiene therapy and vocational guidance. Such a program has been successfully handled by M. M. Walter, State Director of Vocational Rehabilitation in the state of Pennsylvania. (*Paul Treatman, Brooklyn College.*)

HAWK, S. S. Audito-visual perception and reading success. *Claremont (Calif.) Coll. Reading Conf. Yearb.*, 1947, 135-140.

This article is a report on the child of above average or superior ability who is also a reading disability case. Twenty-three children who were 'poor readers' or 'poor spellers' from grades III to IX inclusive were selected, representing seven per cent of the school population of 350. The largest numbers were from Grades VI and IX both of which are considered common break-down levels. There were 19 boys and 4 girls. The median I. Q. was 123, yet these reading disability children ranked in the lowest quartile of their respective classes. This group was given reading, spelling and educational tests, audiometer tests, and telebinocular and Stanford-Binet tests.

The average advancement between the fall of 1945 and the spring of 1946 was from grade placement 5.8 to 8.2. The record of this group of eleven presents a striking contrast to the progress made by the two children who dropped out because of lack of home cooperation.

In many of the cases where eye examinations indicated no pathology, telebinocular tests revealed difficulties in fusion of sounds, fusion of letters, word recognition, visual perception differences between similarly spelled words, eye accommodations and, in two cases, stuttering was closely linked. Audiometer tests were often negative, although patients failed to recognize similar consonants and vowel sounds in reading perception tests. The results of objective tests cannot be depended upon in

the diagnosis of reading difficulty.

Therefore, Dr. Hawk concludes: '. . . . there are factors in reading perception on the auditory and the visual side which need constant study and rechecking, in addition to intensive remedial training. Also, results on a visio-verbal or an audito-verbal test often reveal difficulties which are not present in tests for pure tone, or for eye pathology.' (*Virginia Nobile, Brooklyn College.*)

HIRSCH, I. J. Modern electronic hearing aid. *Hearing News*, 1948, **16**, 1-2, 14-20.

The sole function of a hearing aid, from an acoustic standpoint, is to make sound louder. There are four basic components in a hearing aid: the microphone or converter of sound waves, the amplifier which enlarges the waves supplied by the microphone, the receiver which reconverts the sound waves, and the batteries which are a source of electrical energy.

Because of the physical characteristics of the hearing aid, not all frequencies are amplified equally well. It is now believed that the different kinds of hearing loss may best be compensated for with a hearing aid that has a flat frequency response: one that amplifies all frequencies equally well, or that gives very slight emphasis to the high frequencies.

Individuals who benefit most from hearing aids fall into three categories: small hearing loss, or those who have a difficulty in public places; severe hearing loss, or those who have difficulty in private conversation; and the very hard of hearing, or deaf. In the last case, the hearing aid is an added help for lip readers. (*Helen Klein, Brooklyn College.*)

HOHMAN, L. B. Emotional training paves the road to independence. *The Crippled Child*, 1948, **26**, 6, 7, 14.

Parents of handicapped children should train them to be independent if they are someday to take their place in a world that will pay them very little attention. It is known that growth varies with the individual child—that some will perform certain acts before others. All this is dependent on neuro-muscular development, for there first must be a neurologic pathway before it is possible to start training a function. When pathways are slow in developing in the physically or neurologically handicapped, there is often a neglect to provide opportunities at a later period for the late developed function to go to work. As a result, many children lean upon their parents for support.

Emotional patterns are products of growth and their use is determined by how these patterns are educated. Very often parents feel pity for their handicapped child and mistake training for harsh discipline. It is only through training that temperamental fits are eradicated and the child becomes lovable. A child is loved only when it is lovable. Pity and sympathy for the handicapped child will often result in his good capacities lying dormant and the use of the handicap by the child to procure his own ends.

People give up too easily in the training of a child that is not normal, expecting immediate results. Special techniques are needed of which very few parents are aware. Because of this, the child may learn only what he teaches himself. The drive to any activity can be motivated only when the child is strengthened by emotional drives and emotional controls. This is not done by indulgence, but by training the handicapped child as one would wisely train a normal one. The earlier the training, the better the possibilities for the child to become a self-supporting, responsible adult. (*Gloria Stone, Brooklyn College.*)

KATZ, E. S. Hearing aids and vocational adjustment. *Occupations*, 1948, **26**, 349-350.

The vocational readjustment of the hard of hearing is the main concern of the New York League for the Hard of Hearing. During the past war these handicapped workers proved to their employers that they were capable of turning out good work. One of the most important factors which aided these people at their work was the modern inconspicuous hearing aid. However, although this device has aided many persons, there are some conditions under which it is of no value. Obviously, it cannot be used by the totally deaf person. A hearing aid will not enable a musician to perceive some of the fine shadings of an instrument, and in some cases the hearing aid will amplify the sounds in a noisy room to such a degree that it is unbearable to the wearer.

In cases where a hearing aid is of no use, a change of occupation is sometimes necessary. Under such circumstances, well trained counselors should be provided to give vocational guidance. In giving his recommendations, the advisor has to take into consideration type of hearing loss. For instance, the atmosphere must be relatively calm for those persons suffering from nerve deafness or, in the case of persons suffering from a sinus or middle ear infection, the job must be located in a place where the temperature varies but little. It is important to diagnose a case thoroughly before helping a hard of hearing person to choose an occupation. (*Nancy Warner, Brooklyn College.*)

KEMP, J. S. Magnetic speech recorders. *Quart. J. Speech*, 1948, **34**, 202-205.

The author sketches the background and development of magnetic recorders and suggests possible uses in the educational field. The tape recorder is capable of performance equal to that of the wire recorder. The particular use determines which media, wire or tape, is better adopted.

General purpose recorders and recorder units used in conjunction with the home radio receiver have gotten principal attention, but new ideas include magnetic dictating machines, advertising machines, and recorders for educational field. When the number of magnetic recorders in homes and in schools reaches 200,000 the production of magnetic records will be undertaken. This should happen by the end of 1948. The magnetic recorder will not replace the conventional disc recorder but it certainly will broaden the utilization of speech recording in education. (*Muriel Gould, New York City Public Schools.*)

KENNEDY, M. Auditory training. *Hearing News*, 1948, **16**, 4, 12, 14, 16, 18.

The author, herself afflicted with partial deafness, is primarily interested in reeducating hearing for those who have lost that sense.

Auditory training is the means of developing greater tolerance to and keener and better understanding of sounds. This is achieved by listening to various sounds, including those of instruments and the singing voice. Of primary importance is the will of the student to learn, and this depends a great deal on the teacher and his methods. All aids to hearing (e. g. individual aid, group hearing aid, or other special equipment) are used in his behalf. He must, at no time, be tricked, bewildered, or in any way confused.

Progress is slow but certain if the proper patterns are used. Such correct patterns of interpretation are established in the student's mind through the use of texts. In this way the pupil sees and can follow what he should be hearing. This helps in building up confidence. To some degree, lip reading serves the same purpose, and with careful and frequent practice associations become fixed in the mind. Background noises are gradually introduced to strengthen concentration and to increase a tolerance for a confusion of sounds.

Other teaching techniques include the use of materials which allow for little guessing, because wrong guesses make as great a mark on the mind as correct ones. It must be remembered also that auditory training is similar to learning any subject and such common factors as close attention, concentration, interest in the subject, and ability to grasp the idea of the purpose to be realized must be considered.

There are many benefits of a hearing aid if it fits properly. The author suggests that all people who need one should wear one. She also advises that deafened persons make themselves as sound-conscious as possible, and that they listen as much as possible to anyone or anything available. However she cautions such people not to listen when fatigued, and to build up endurance by gradually lengthening sessions of practice time. (*Marcia Segerman, Brooklyn College.*)

KONIGSBERG, E. Speech for the slow learner. *Bull. Nat'l Assoc. Sec. Sch. Prin.*, 1948 **32**, 148-151.

Slow learners become inarticulate or uncommunicative for two reasons: it takes them some time to formulate ideas, and they retreat because of keen competition and unhappy failures which interfere with good speech. For the slow learners speech is an important means of social adjustment. They must be made aware of the necessity of good speech by being shown that it is merely another part of behavior, not restricted to an intellectually superior class and not unduly difficult to acquire. The teacher of slow learners must herself be sincere and well adjusted.

The author suggests a specially designed speech course, lasting a full year, and not delayed beyond the tenth year. The objectives for the slow learner are: the ability to use speech in everyday social and business intercourse, improved voice quality, and improved habits of articulation. The teacher should set standards that are achievable. The course should be primarily one of social adjustment. (*Natalie Shapiro, Brooklyn College.*)

MACKIE, R. Deaf children under six go to school. *Sch. Life*, 1948, **30**, 5-8.

Two preprimary schools for the deaf child are described in detail. They differ in that the Lexington School for the deaf is primarily a residential school, with the benefits of a twenty-four hour program, and public school number 47, is a day school. Both are in New York City. The age range in the Lexington School is from two and a half to five, whereas P. S. 47 enters children at two years and keeps them under its jurisdiction until they are ready for high school. It also provides a service for families where there are infants suspected of being deaf.

Development of the whole child is fostered through informal play periods, indoors and out, health examinations, rest periods, lunches, and sufficient time for orientation to the atmosphere before any

actual lip reading work is begun. Lip reading is taught by individual instruction at first, with group work coming later on. Words are taught as they appear in practical situations, the teachers taking every opportunity to develop vocabulary in conjunction with the child's immediate environment as words are needed and understood.

A special feature stressed in both schools are classes for parents or guardians of acoustically handicapped children. This helps the parents in that they are relieved of anxiety, and aids in the adjustment of the child as the adult's knowledge of how to cope with his problem increases. (*Sylvia Stieber, Brooklyn College.*)

MACPHERSON, H. How a hearing loss affects a child's personality. *Hearing News*, 1948, **16**, 2.

The hard of hearing child has a tremendous need for love and security from his parents and family, so that he may respond adequately in the eyes of himself and others to the pressures for normal behavior. Between the ages of 2 and 6, the personality of the child depends upon the position the child occupies in the family circle, the attitude of the parents to the child, and their attitude toward his handicap. Studies have shown that the attitudes of parents toward their handicapped children tend to be more extreme than toward their normal children. Extreme attitudes take the form of rejection, overprotection, inconsistent treatment, refusal to accept the disability as a fact, etc. The child, in his reaction toward his parents, may blame them for his handicap, because of the parental supremacy role as givers and takers-away. Anxiety, hostility, and poor mental health may follow. The excessive pressure of the environment for the hard of hearing child to attain the same standard of speech as his normally hearing contemporaries often makes for an emotional block to learning, which is characteristic behavior of the hard of hearing child.

Between the ages of 6 to 10, the child should extend his circle into the outer world—school life and life with his gang. A hearing defect can markedly effect his natural gregariousness because he feels different and alone, and so tends to creat phantasies about himself. An adolescent child desires emancipation from his family and individuality. The hard of hearing youth is under great pressure to meet the standards established by the environmental world. His difficulties arising from his hearing loss plus his insecurity arising from his adolescent state may cause him to reject his hearing aid, lip reading, and anything else that might reveal his handicap.

Parents should (1) accept the child's handicap and not blame themselves for it; (2) place educational goals within the ability of the child to meet successfully; (3) accept the child's own performance and speed of progress. (*Leona M. Segal, Brooklyn College.*)

POLLACK, I. Effects of high pass and low pass filtering on the intelligibility of speech in noise. *J. acoust. Soc. Amer.*, 1948, **20**, 26.

The effect on intelligibility of eliminating either the high frequency speech sounds or the low frequency speech sounds was determined by standardized articulation testing procedures under the special circumstance of a background of white masking noise. In general, it was found that intelligibility increased as the frequency range and the intensity level of the speech signal were increased. Contours are presented which describe the interrelations among (1) the frequency range of the speech signal, (2) the intensity level of the speech signal and (3) articulation efficiency.

For each of the experimental conditions, the articulation index—a measure developed by the Bell Telephone Laboratories—was computed. It was found that the scatter of the computed indices, when plotted against the values actually obtained, was of the same order of magnitude as the intrinsic varability of typical articulation scores. This result indicates that the computational procedures are an acceptable substitute for time-consuming articulation testing when an approximate assessment of the relative efficiencies of a series of communication systems is required and when a background noise is encountered like the white noise of this study.

It was found that the relative contribution of the various speech frequencies was not constant, but rather was a function of the intensity of the speech signal relative to the constant white noise masking signal. More specifically, as the intensity level of the speech signal was increased the relative contribution to intelligibility of the higher speech frequencies increased. (*Melvin Hyman, Brooklyn College.*)

JOURNAL OF SPEECH AND HEARING DISORDERS, 1949, **14**, 77-81

News and Announcements

Miriam D. Pauls, Editor*

(Information for this department is always gladly received and the help of those who have contributed in the past is much appreciated although it is impossible to acknowledge each letter personally. This column can function only with the help of interested members.

The deadline on which this editor must submit copy is two months ahead of the date of publication of each issue:

March issue—January 1
June issue—April 1
September issue—July 1
December issue—October 1 M.D.P.)

The Department of Audiology, Eye and Ear Hospital, Pittsburgh, is presenting a series of 12 lectures on Hearing and Deafness for parents of aurally handicapped children, and other interested persons. Cooperating in the lectures are the Departments of Psychology and Speech, University of Pittsburgh, and the Pittsburgh League for the Hard of Hearing. Among the lecturers are: Miss Charlotte Avery, Clinical Audiologist, Department of Audiology; Dr. Jack Matthews, Director, Speech Clinic, University of Pittsburgh; Miss Phyllis McCalmont, Executive Secretary, Pittsburgh League for the Hard of Hearing; Mr. Sam Craig, Superintendent, Western Pennsylvania School for the Deaf; Dr. Raymond Jordan, prominent Pittsburgh otologist; and Dr. Leo G. Doerfler, Assistant Professor of Audiology, School of Medicine, and Director of the Department of Audiology.

The Institute for Human Adjustment, University of Michigan, is undergoing extensive alterations of its present building which will provide additional rooms and special facilities. When completed, these changes will include: the creation of nine consultation and practice rooms for the hearing rehabilitation program, a special suite equipped with an isolated soundproof room for clinical testing and research and three cubicles for student practice of audiometry, a recording room, office, laboratory, and shop.

In the fall 12 children, ranging in age from five to eight years, presenting severe speech handicaps, were enrolled in an 8-weeks intensive group training program placing emphasis on speech usage as well as on the mechanics of speech production. Dr. Ollie Backus and Miss Jane Beasley directed the program. The mothers of these twelve children were encouraged to observe at the training periods, and were organized into a class that met regularly at the Clinic with a staff member to discuss training and to outline suggestions for home guidance. A group of pre-school children and their parents were present for a 2-weeks training program in January.

The Aphasia Division supplied intensive retraining for 12 brain injured veterans in residence for six weeks last summer, and for 20 others in residence the first semester of this year; the Adult Division, for 12 adolescents in residence for six weeks last summer and for 12 adults in residence for eight weeks this past semester. Mrs. Vivian Sheehan is in charge of the work for the aphasics, Miss Ann Madsen is Senior Clinician in the Adult Division.

The cooperation of the State Departments of Health and Public Instruction with the Hearing Division of the Clinic directed by Mr. Morley, last summer produced for the second time a 6-weeks program for a group of children from 10 to 12 years of age whose handicapping hearing losses were incapable of further medical treatment.

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The children, each of whom was provided with a properly fitted hearing aid, were given intensive auditory training, lip reading, and speech instruction at the Rackham School in Ypsilanti. At intervals of six months, they return to the Clinic for acoustic and academic re-examination.

At Shady Trails Speech Camp this summer 12 junior staff appointments are available, each carrying a stipend of $75.00 plus room and board for the entire camp season. Requests for information may be addressed to Dr. Bloomer or to Mr. Clancy at the Clinic.

The fourth annual Speech Correction Conference at the University of Missouri was held on October 29, 30, 1948. The conference theme was articulatory problems. Dr. Grant Fairbanks was the key speaker.

The Minnesota Speech Clinicians Association held their fall meeting the last of October. The program was integrated with that of the State Education Association.

A new graduate program leading to the Master of Education degree in the field of the teaching of the deaf has been introduced at Smith College. The program will consist of twelve hours of work at Smith and eighteen hours at the Clarke School for the Deaf, which is cooperating with the college.

The Lip Reading Department, a division of the National Education Association, was established in 1926. It is concerned with the problem of hard of hearing and deafened children. Membership in the Lip Reading Department is aimed at professional growth of teachers of the aurally handicapped and is not intended to supplant any other professional affiliation.

The following officers have been elected for 1948-49: President, Miss Alice Burtnett, Hearing Therapist, Youngstown, Ohio, Public Schools; Vice-president and Managing Editor, *of The Lip Reader,* Thomas D. Houchin, Speech Consultant, Crippled Children Services, Minnesota Division of Social Welfare, St. Paul; Secretary-Treasurer, Miss Dorothy Swope, Hearing Therapist, Houston, Texas. The Editorial Board of *The Lip Reader* is composed of Miss Laila L. Larsen, Speech Clinic, Indiana University, Bloomington, and Dr. Harold Westlake, Speech and Hearing Clinic, School of Speech, Northwestern University.

Mrs. Lois Greene, who was formerly affiliated with the Cleveland Hearing and Speech Center, is studying with her husband at the University of Zurich. In September she attended meetings in London and reports as follows:

One of the most exciting experiences I have had here was to attend the Conference on Speech Therapy sponsored by the College of Speech Therapists in London and representing twenty countries. This Conference also served to provide a nucleus for further international meetings, the next of which is to be held in Holland next year or the year after. The meetings were held at the Royal Society of Medicine from September 20-24 and consisted of extremely well-organized sessions and excellently presented papers from speech therapists, speech pathologists, psychiatrists, psychologists, dentists, and physicians. The topics included aims of therapy, theoretical basis and treatment of stammering in all stages, neurological disorders with emphasis on dysphasia, dysgraphia, and dyslexia, visual hearing methods, esophageal voice, obturators, and school programs for speech defective children. It was also enlightening to learn what is being done in this field in the countries represented. The Conference was attended by about 400 people and all were congenial and anxious to exchange views. The social occasions provided by the Conference Committee consisted of a formal reception by the Ministry of Education, a dinner, tea, and tour of London and vicinity, and other opportunities to mingle and get acquainted.

Dr. Marie Mason (Ohio State Univ.) and Dr. Mabel Gifford (Univ. of California) presented papers on 'Visual Hearing Methods' and the 'California School Program,' respectively. They were the only other rep-

resentatives from the U.S.A. Mrs. Greene voices the opinion that every effort should be made to have more representatives at any future conferences of this sort.

The National Society for Crippled Children and Adults, Inc., has compiled a *Speech Correction Bibliography* which is available without charge from the Librarian of the Society, 11 South La Salle Street, Chicago 3, Illinois.

An experimental laboratory for research in both normal and disordered speech and hearing has been established on the Urbana campus of the University of Illinois as a feature of the Department of Speech. Known as The Speech Laboratory, the unit is designed to serve graduate instruction and to furnish facilities for student and faculty research.

The project has been allotted approximately 7500 square feet of space in a permanent building, which is being remodelled to provide suitable conditions for acoustical, physiological, and psychological investigation. Equipment will cover the full range of modern research instrumentation.

Director of The Speech Laboratory is Professor Grant Fairbanks. Other participating faculty members of the Illinois Department of Speech are Professors E. Thayer Curry, Karl A. Windesheim, Glenn J. Taylor, and Lee S. Hultzén. Part-time research assistantships are available for qualified students who are interested in advanced study and experimentation.

An $11,000 grant from the Office of Naval Research has made possible the extension for a third year of a research project in shorter intelligence tests at Northwestern University under the direction of Dr. William Hunt. The new tests enable examiners of naval recruits to obtain in a few minutes data which usually require approximately an hour. In addition to testing intelligence, the new tests have a diagnostic value in detecting psychotic tendencies, neurotic traits, traumatic effects of brain injury, and results of shock therapy. The tests will be available to all clinical institutions and personnel workers in industry.

The Midwest City Schools, Oklahoma City, Oklahoma, have recently established a new Speech and Hearing Clinic. Mildred Allen, formerly on the faculty of the University of Missouri, has been appointed the director. The Clinic has been equipped with new wire recorders, audiometers and other materials used in diagnosis and treatment. Midwest City, established in 1943, has been planned as a model community in housing, business districts and educational facilities. The Special Education Program of the schools includes a Reading Clinic, and a Sight-Saving Program, as well as the Speech and Hearing Clinic.

The twentieth anniversary meeting of the Acoustical Society of America will be held May 5-7, 1949, Hotel Statler, New York City. The theme of the meeting will be Acoustics and Man. Acoustics will be classified by function rather than by type. Sectional meetings will deal with: Acoustics in Communication; Acoustics in Human Comfort and Safety; Acoustics as a Tool of Basic Research; Acoustics and the Arts. The May 6th meeting will be devoted to technical papers and demonstrations at the Bell Telephone Laboratories, Murray Hill, New Jersey.

The Training School at Vineland, New Jersey, has expanded its facilities to include speech rehabilitation for its children. Dr. George W. Gans, formerly Chief Language Therapist of the Aphasia Section at the Cushing Veterans Hospital in Framingham, Massachusetts, has accepted the appointment as Speech Pathologist at the Training School.

The Training School is known for

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its pioneer work in mental deficiency. Research work at the School's Laboratory has produced such studies as the 'Kallikak Family' in heredity and developed the Vineland Maturity Scale, which provides evidence of motor, social, and linguistic aspects of growth in normative terms. It also introduced into this country the Binet-Simon Scale for measuring mental maturity. Work in the Cerebral Palsy Study produced the textbook by Doll, Phelps, and Melcher, and gave impetus to the establishment of many cerebral palsy clinics throughout the country. The establishment of a speech clinic at the School is a part of the new Child Development program now being introduced, with the aim to coordinate research and training. Additional qualified speech therapists will be needed to fulfill the needs of the children. Interested workers in the field are invited to contact the Training School for further information.

The Cleveland Hearing and Speech Center has made a new training film, *New Voices*. The film shows the complete rehabilitation process of the laryngectomy patient. Special emphasis is laid upon speech training. A small pamphlet accompanies the film, containing the full script and additional exercise material for self-teaching of esophageal speech. This film is available to clinics who wish to consider purchase of a copy of the film as additional training material. It was first shown at the AMA convention in Chicago and later at the ASHA convention in Washington.

The American Hearing Society has announced a scholarship available to a prospective teacher of lip reading to the hard of hearing. Known as the Coralie Noyes Kenfield Scholarship for Teachers' Training Courses for Teachers of Hard of Hearing Adults, the scholarship will be available only to persons who are themselves hard of hearing and who are able to meet certain educational and personal requirements. Applications must be filed between March 1 and May 1, 1949. Information can be obtained by writing to Miss Rose V. Feilbach, American Hearing Society, 817 14th Street, N. W., Washington 5, D. C.

The seventy-third annual meeting of the American Association on Mental Deficiency and the Pan American Congress on Mental Deficiency will be held at Hotel Roosevelt, New Orleans, Louisiana, April 26-30, 1949.

In September, representatives from eleven different institutions and agencies met in Pittsburgh for the purpose of coordinating speech and hearing services in the community. Each representative presented the program and facilities of his organization with the idea of acquainting the group with the services available and to coordinate efforts.

The Johannesburg Hospital in South Africa has had a speech clinic for a number of years. It has grown steadily despite difficulties due to lack of definite and permanent accommodations. The hospital board is now considering the question of accommodations and development of the clinic as well as its relationship to the University's Department of Logopedics. About a hundred speech and hearing patients of all types were treated last year.

A pamphlet, 'The Illinois Plan for Special Education of Exceptional Children—Those with Impaired Hearing (Circular Series *C* No. 12),' is now available from the office of the Superintendent of Public Instruction, Springfield, Illinois. It was prepared after two years' study and conference by a committee headed by Ray Graham, Director of Special Education for the state.

The Indiana State Speech and Hearing Therapy Association and the

Indiana State Society for Crippled Children held a meeting on February 25 and 26 at Bloomington, Indiana. Mrs. Spencer Tracy and Dr. Claude E. Kantner were the speakers.

PERSONALS

Dr. Harlan Bloomer announces the appointment beginning last September of new staff members for the speech and hearing clinic of the Institute for Human Adjustment of the University of Michigan —Dr. Earl Schubert, directing the visible speech research project, assisted by Miss Doris Richards at the Rackham School of Special Education, Ypsilanti; Mrs. Barbara Cook, social case worker; Miss Anna Carr, visiting lecturer; and also the new appointments of Miss Jane Beasley and Mr. D. E. Morley to instructorships in speech. In addition to former duties, Mr. John Clancy has accepted an administrative assignment as Assistant to the Director.

Dr. Rutherford Porter has accepted the directorship of the Special Education Clinics, Indiana State Teachers College, Terre Haute. Dr. Porter is a clinical psychologist. Mr. Edward T. Jordan of London is the speech therapist and Miss Margaret Rowe is the hearing therapist.

Miss Roma Hayworth has resigned her position in the speech clinic at Ball State Teachers College, Muncie, Indiana. She is working on her doctorate at the University of Southern California and at the John Tracy Clinic. Miss Lois Norton who recently received her M.A. from the University of Nebraska is now a speech correctionist at Ball State.

Miss Doris L. Trepel has been appointed Instructor in the Department of Speech and Dramatics at Hunter College.

Miss Norma Ansher has been in private practice in Des Moines, Iowa for the past year doing speech correction and hearing rehabilitation. Miss Ansher did her graduate work at the University of Iowa.

Dr. Elizabeth Andersch, Associate Professor of Speech at Ohio University has accepted a three year term as Editor of the Ohio Association of Speech and Hearing Therapist's *Bulletin*.

A. C. LaFollette was granted his Ph.D. from Denver University in August, 1948. Dr. LaFollette heads the Speech Clinic at Ohio University, Athens, Ohio.

David Williams (M.A. University of Iowa) joined the faculty of Marshall College, Huntington, West Virginia, as Instructor in Speech and Director of the Speech Clinic in September, 1948.

Mrs. Elizabeth Scott has accepted a position in the Public Schools of Evansville, Indiana. She has organized the deaf department and currently has a class of twelve deaf children. Mrs. Scott was formerly with the Chicago Public Schools.

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REPORT OF THE CONVENTION

American Speech and Hearing Association

WASHINGTON, D. C.

December 27-30, 1948

December 27, 1948, 7:30 p. m.

Council members present at this meeting were Martin F. Palmer (presiding), Herbert Koepp Baker, Spencer F. Brown, Grant Fairbanks, Wendell Johnson, George A. Kopp, Eugene T. McDonald, and D. W. Morris.

Secretary-Treasurer's Report: A report on the financial status of the Association and of the Speech Correction Foundation, including a summary of the factors involved in moving the office from Columbus, Ohio to Detroit, Michigan was made by Kopp. It was moved by Johnson and seconded by Fairbanks that the report be approved and accepted. Motion passed.

Report of Retiring Editor of the Journal: Johnson expressed his appreciation of Council support and cooperation and congratulated the Council on the selection of Fairbanks as Editor of the *Journal*. Morris moved to amend Johnson's report by inserting poem, 'Johnson to Fairbanks.' Johnson seconded the motion. Amendment passed. Report accepted. (Amendment filed separately.)

Report of Editor of the Journal: Fairbanks called attention to the cooperation and contributions of the administration of the University of Illinois in helping to establish the office of Editor of the *Journal*. Special mention was made of the services of Dr. Paden as Assistant to the Editor. Fairbanks moved and Baker seconded the ratification of the following Associate Editors:

Stanley H. Ainsworth
Spencer F. Brown
E. Robert Harrington
Claude E. Kantner
S. Richard Silverman

Motion passed.

It was moved by Fairbanks and seconded by Morris that authors of articles accepted for publication in the *Journal* not be charged for 8-point type and that the practice of giving 100 free reprints to each author be discontinued. Motion passed.

It was moved by Morris and seconded by Brown that the Editor and Business Manager of the *Journal* be authorized by the Council to begin a policy of accepting advertising in publications of the Association during the current year if they so choose. Motion passed.

It was moved by Morris and seconded by Johnson that the Editor and Business Manager of the *Journal* be authorized by the Council to study the professional feasibility and financial practicability of revision of the present *Journal* policy towards the end of extending the publication outlet for members of the Association. Motion passed.

It was moved by Morris and seconded by Johnson that the Council ask the Association for power to act upon recommendations of the Editor and Business Manager of the *Journal* concerning changes in ASHA publications during 1949. Motion passed.

Changes in Directory: It was moved by Johnson and seconded by Baker that the Directory include the titles, names, and terms of office of members of the Editorial Staff. Motion passed.

It was moved by Johnson and seconded by Morris that the Secretary-Treasurer be authorized to change the Constitution in order to provide for an annual rather than a specific issue publication of the Directory of members of ASHA. Motion passed.

Invitation to hold Convention: Mr. Richard H. Fry of the Deshler-Wallick Hotel, Columbus, Ohio, extended an invitation to ASHA to hold its 1950 meeting in Columbus. Appreciation of the Council for the invitation was expressed by Palmer, and the Secretary-Treasurer was instructed to inform Mr. Fry of Council action concerning time and place of the 1950 Convention.

Report of the Committee on Education: McDonald read the names of applicants approved by the Committee on Education as Fellows and Professional Members in ASHA and moved that the recommendations of the Committee on Education be accepted. Johnson seconded the motion. Motion passed.

It was moved by McDonald and seconded by Johnson that the list of applicants for Clinical membership as recommended by the Committee on Education be accepted. Motion passed.

Palmer explained the present practice

of admitting Associates. Discussion followed concerning the framework of membership to recognize different groups of people who are interested in belonging to ASHA. It was moved by Fairbanks and seconded by Brown that the Council be resolved into the Committee of the Whole for discussion of the problem. Motion passed.

The Council went back into legislative session and it was moved by Johnson and seconded by Morris that all previously rejected applicants for Associateship who are qualified under present requirements be accepted and a letter forwarded to each explaining the nature of Associate membership and the future provisions for continuing membership in ASHA. Motion passed by 2/3 vote.

Palmer revealed and explained the Committee's proposal for revision of membership classification to set up the following classes:

Fellow: Honorary Fellow
Professional; Professional (Speech); Professional (Hearing)
Research
Clinical; Clinical (Speech); Clinical (Hearing)
Technical
Associate

It was moved by Morris and seconded by Johnson that this framework for membership be adopted. Motion passed.

It was moved by Morris and seconded by Johnson that a list of subscribing nonmembers be printed in future Directories. Motion passed.

Foundation Committee: It was moved by Johnson and seconded by Brown that the Council authorize the Foundation Committee to talk with Mr. Lawrence Linck, of the National Society for Crippled Children and Adults, Inc., concerning possibilities of cooperative efforts in securing funds for the Speech Correction Foundation and report back to the Council. Motion passed.

Meeting adjourned.

December 28, 1948, 10 p. m.

Council members present at the meeting were Martin F. Palmer (presiding), Herbert Koepp Baker, Spencer F. Brown, Grant Fairbanks, Wendell Johnson, George A. Kopp, Eugene T. McDonald, D. W. Morris, and Robert West.

Association Honors: It was moved by Fairbanks and seconded by Baker that, in consideration of the recommendation of the Honors Committee, no Association honors be granted this year. Motion passed.

It was moved by Fairbanks and seconded by Baker that the incoming President appoint a committee of three members, including himself as chairman, to study the mechanism whereby Association honors should be awarded and report its recommendations to the Council by mail. Motion passed.

Budget Committee: No report. It was moved by Morris and seconded by Johnson that the Budget Committee consist of the President, the Secretary-Treasurer, and the Editor of the *Journal*. Motion passed.

Exchange of Materials Committee: No report.

Inter-Associational Relations Committee: No report. It was moved by Johnson and seconded by Morris that the Inter-Associational Relations Committee be discontinued. Motion passed.

Inter-Organizational Convention Committee: No report.

Program Committee: Brown stated that the Convention was the Program Committee's report. It was moved by Johnson and seconded by Baker that the Program Committee's report be accepted with commendation. Motion passed.

Change in Constitution and By-Laws: It was moved by Fairbanks and seconded by Johnson that the Secretary be instructed to incorporate in the Constitution and By-Laws that it be obligatory that each appointive standing committee of ASHA consist, in part, of one Fellow or Professional member (Speech), one Fellow of Professional member (Hearing), and one Fellow or Research member. Motion passed.

It was moved by Fairbanks and seconded by Johnson that the Council of ASHA consist, in part, of one Fellow or Professional member (Speech), one Fellow or Professional member (Hearing), and one Fellow or Research member. Motion passed.

National Society for Crippled Children and Adults Inc., Liaison Report: It was moved by Baker and seconded by Johnson that the Council accept with gratitude the National Society for Crippled Children and Adults, Inc., Liaison Report. Motion passed.

Committee Changes: In response to Council instruction of one year previous, the Committee on Education presented a report to provide for four committees on (1) Credentials, (2) Academic and Professional Preparation, (3) Ethical Practice, and (4) Liaison, and the elimination of the Committee on Education. The Secretary was instructed to have 20 copies made and distributed to members of the Council before the Council meeting on the following day.

Proposed Constitutional Amendment: Robbins submitted a motion by mail to change the Constitution to provide for a Committee on Terminology. The Council

expressed satisfaction with the present status of the Committee on Terminology. Amendment was lost.

Report of the Committee on Terminology: This report was prepared by Robbins and read by Palmer. Johnson moved and Brown seconded its acceptance. Motion passed.

Office of Vice-President-Elect: It was moved by Brown and seconded by Johnson that the secretary change the Constitution to provide for the office of Vice-President-Elect. Motion passed.

Fairbanks' Resignation from Council and Committee on Education: It was moved by Baker and seconded by Brown that Fairbanks' resignation as Councilor-at-Large and as a member of the Committee on Education be accepted. Motion passed.

Nomination of Officers: The following persons were nominated for offices to become effective January 1, 1949:

President—D. W. Morris
President-Elect—Wendell Johnson
Vice-President—M. D. Steer
Vice-President-Elect—Henry M. Moser
Councilor (3 year term)—S. Richard Silverman
Councilor (3 year term)—Eugene T. McDonald
Councilor (2 year term)—Raymond Carhart

Brown's Resignation from Graduate Records Committee: Palmer reported that Brown's resignation from the Graduate Records Committee had been received and accepted and that James F. Curtis had been appointed to fill the vacancy.

Committee Chairmen: The Council recommended to the incoming President the following persons as committee chairmen:

Committee on Credentials: Margaret E. Hall
Committee on Academic and Professional Preparation: Martin F. Palmer
Committee on Ethical Practice: Harold Westlake

Succession in Office of Vice-President: It was moved by Johnson and seconded by Brown that the question of succession in office of Vice-President be referred to the Constitutional Committee. Motion passed.

Constitutional Changes since 1943: It was moved by Morris and seconded by Johnson that constitutional changes since 1943 be incorporated in the revision of the Constitution and printed in the *Journal* with 2,500 reprints made as soon as possible. Motion passed.

The meeting was adjourned.

December 29, 1948, 2 p. m.

Council members present at the meeting were Martin F. Palmer (presiding), Herbert Koepp Baker, Spencer F. Brown, Grant Fairbanks, Wendell Johnson, George A. Kopp, Eugene T. McDonald, and Robert West.

Increase in Dues: It was moved by Fairbanks and seconded by Baker that dues of Fellows be increased to $12.50 per year. Motion passed.

It was moved by Fairbanks and seconded by Brown that dues of Professional members be increased to $12.50 per year. Motion passed.

ASHA Delegate to SAA Council: It was moved by Johnson and seconded by Fairbanks that the most recent past President of ASHA instead of the current President be the Association delegate to SAA Council. Motion passed.

Election of Nominating Committee by Mail Ballot: It was moved by Brown and seconded by Johnson that the American Psychological Association system of electing officers by mail be used for electing members of the Nominating Committee and that members of the Nominating Committee shall not succeed themselves. Motion passed.

Liaison Officer: It was moved by Fairbanks and seconded by McDonald that effective at the beginning of the year 1951 there be created the office of Executive Vice-President, with a term of four years, the incumbent of which shall be the chairman of the Committee on Liaison, and that a nomination for that office shall appear on the slate of nominees submitted at the 1950 annual Convention.

Acting Councilor. Since, in view of earlier Council actions, Martin F. Palmer would be Councilor Ex-Officio in two capacities, it was recommended that the incoming President appoint an additional acting Councilor to serve during 1949. (At a later date, President D. W. Morris appointed Herbert Koepp Baker to serve in this capacity.)

Constitutional and By-Laws Changes proposed by Committee on Education: After considerable discussion and several amendments the Council voted to recommend to the membership the following changes in the Constitution and By-Laws, as moved by Palmer and seconded by Fairbanks:

CHANGES IN THE CONSTITUTION

In ARTICLE III, in all places where the words 'Committee on Education' appear, strike out these words and substitute 'Committee on Credentials.'

In ARTICLE V, add the Chairman of each Committee, strike out the words 'Committee on Education' and insert the words 'Committee on Credentials,' strike out the work 'Chairman' and

substitute the word 'Chairmen' and after the comma after the word 'credentials' insert 'Committee on Academic and Professional Preparation, Committee on Ethical Practice.'

In ARTICLE VI. strike out Section A. Re-entitle Section B, Section E, and insert four new sections, A, B, C, and D, as follows:

A. Committee on Credentials

Section 1. A standing committee on credentials to be entitled 'The Committee on Credentials' and to consist of five members including one Fellow or Professional member (Speech); one Fellow or Professional members (Hearing); and one Fellow or Research member, shall be appointed as follows: The Chairman shall be an elected officer. Each member shall be appointed by the President with the approval of the Council. At the beginning of the calendar year of 1949, the President shall appoint a Chairman to serve from 1949 to 1950, two members to serve from 1949 to 1953, and two members to serve from 1949 to 1951; thereafter committee vacancies shall be filled in each instance for a term of four years.

Section 2. The duties of the Committee on Credentials shall be:

1. To investigate candidates for membership in the Association and to determine the qualifications of each candidate for membership in the Association.

2. To develop application forms suitable for making application for membership in the Association.

3. To develop a dignified method of welcoming successful applicants for membership.

4. To develop a proper certificate for recognizing various grades of membership in the Association.

5. To study the qualifications of applicants during any year of work and report this to the Committee on Academic and Professional Standards in order that revisions may be made in the membership code.

6. To endeavor to exercise its influence toward the development of qualified and scholarly centers for research and clinics dealing with disorders of speech and hearing, and to develop a general and widespread public knowledge of the qualifications necessary for work in this field.

Section 3. The authority of the committee to make decisions in its own field shall be limited as follows:

1. It shall be the responsibility of the committee to weigh each candidate in terms of the By-Laws, to interpret rigorously the By-Laws adopted by the Association in connection with each candidate, to report to the President at each annual meeting the number of accepted applicants, and to make recommendations to the President relative to the procedures of the committee. General recommendations of the committee relative to acceptance of applicants shall be approved by a two-thirds vote of the Council and by the membership in an annual business meeting. Any member of the Association may propose to the committee a revision of any detail of this action, which the committee shall consider.

2. In general, in regard to all procedures and duties of the committee, final action shall only be taken by two-thirds vote of the Council and a majority vote of the Association at an annual business session.

Section 4. At each annual meeting of the Association, the Committee shall present a report of work done during the year to the entire membership of the Association.

B. Committee on Academic and Professional Preparation

Section 1. A standing committee on academic and professional preparation to be entitled 'The Committee on Academic and Professional Preparation' and to consist of five members including one Fellow or Professional member (Speech); one Fellow or Professional member (Hearing); and one Fellow or Research member, shall be appointed as follows: The Chairman shall be an elected officer. Each member shall be appointed by the President with the approval of the Council. At the beginning of the calendar year of 1949, the President shall appoint a Chairman to serve from 1949 to 1951, two members to serve from 1949 to 1953, and two members to serve from 1949 to 1951; thereafter committee vacancies shall be filled in each instance for a term of four years.

Section 2. The duties of the Committee on Academic and Professional Preparation shall be:

1. To determine the kind and extent of preliminary education and of professional education and training that should constitute the minimal basal requirements, indicating capability of practicing in the field of disorders of speech, hearing and research. Such determination shall be based on mathematical studies of training schools and

qualifications of the membership.

2. To study the matter of preceptorship experience by individuals who have completed the academic portion of their training, and to determine the ways in which a preceptor may properly guide the experience of an applicant for membership.

3. To have available at all times, in connection with the Committee on Credentials, lists of properly qualified training schools giving credits in the field of speech disorders and hearing.

4. To endeavor to exercise its advisory influence toward the development of separate professional training schools in this area.

5. To communicate to the Committee on Credentials its latest findings on academic and professional standards and to check the Committee on Credentials in order that the Committee on Academic and Professional Preparation may be assured that candidates are being accepted only in compliance with the standards set forth in the By-Laws of the Association.

Section 3. The authority of the Committee to make decisions in its own field shall be limited as follows:

1. With respect to minimum standards of education and training and preceptorship, its report on each of these subjects shall be presented to the President of the Association. When approved by a two-thirds vote of the Council, the report must be acted upon by the membership in an annual business meeting. Any member of the Association may propose to the Committee a revision of any detail of this action, which proposal the Committee shall consider.

2. The Committee shall be required, when raising standards of either academic preparation or preceptorship experience, to notify all members of the Association whom the action might affect; the Committee should inform such members prior to its report to the President, and consider suggestions from present members relative to these standards.

Section 4. At each annual meeting of the Association, the Committee shall present a report of progress to the entire membership of the Association.

C. Committee on Ethical Practice

Section 1. A standing committee on ethical practice, to be entitled 'The Committee on Ethical Practice' and to consist of five members, including one Fellow or Professional member (Speech); one Fellow or Professional member (Hearing); and one Fellow or Research member, shall be appointed as follows: The Chairman shall be an elected officer. Each member shall be appointed by the President with the approval of the Council. At the beginning of the calendar year of 1949, the President shall appoint a Chairman to serve from 1949 to 1952, two members to serve from 1949 to 1953, and two members to serve from 1949 to 1951; thereafter committee vacancies shall be filled in each instance for a term of four years.

Section 2. The duties of the Committee on Ethical Practice shall be:

1. To study the code of ethics of the Association, and to revise this code in keeping with the development of this professional area of work.

2. To investigate violations of the ethical code by members or non-members of the Association, and to act in such directions as will tend to reduce the number of such violations.

3. When asked by the Committee on Credentials, or the Committee on Academic and Professional Preparation, to investigate the ethics of an applicant, it shall comply with this request, or it may initiate such investigations on its own cognizance in keeping with the official regulations of the Association.

4. To investigate clinics and training schools for the purpose of advising with such clinics and training schools on their qualifications as compared with other clinics and training schools.

Section 3. The authority of the Committee to make decisions in its own field shall be limited as follows:

1. With respect to changes in the code of ethics and violations of the ethical code, the Committee shall report to the President. When such a report is approved by a two-thirds vote of the Council, the report must be acted upon by the membership in an annual business meeting. Any member of the Association may propose to the Committee a revision of any detail of this action, which proposal the Committee shall consider.

2. Changes in the ethical code shall be presented to the President only after first receiving a concurrence from the Committee on Academic and Professional Preparation.

Section 4. At each annual meeting of the Association, the Committee shall present a report of progress to the entire membership of the Association.

D. Committee on Liaison

Section 1. A standing committee on liaison entitled 'The Committee on Liaison' and to consist of five members, shall take office as follows: The President (ex-officio) shall be Chairman of the Committee; the other members shall be the Vice-President (ex-officio), Editor, (ex-officio), the Chairman of the Committee on Credentials, (ex-officio), the Chairman of the Committee on Ethical Practice (ex-officio), the Chairman of the Committee on Academic and Professional Preparation (ex-officio, and the Secretary (ex-officio).

Section 2. The duties of the Committee on Liaison shall be to:

1. Study the relationship of the Association to various federal and state offices and bureaus, other allied professions, and similar areas, and search for methods of making the Association's influence useful in these fields of service.

Section 3. The authority of the Committee to make decisions in its own field shall be limited as follows:

1. It shall operate rigorously within the framework of the Constitution and By-Laws of the Association, reporting to the President and the Association when changes seem indicated.

2. Complete reports of its activities shall be presented to the President and, if approved by a two-thirds vote of the Council, to an annual business session. The Committee shall consider any suggestion as to policy made by a member of the Association and shall report its decision to the member and to the Association.

3. Any member of the Committee may be removed from office by a two-thirds vote of the Council and a new member to fill the unexpired term may be appointed by a two-thirds vote of the Council. Such action shall not extend to other duties of the member in his de jure office.

Section 4. At each annual meeting of the Association the Committee shall present a report of work done during the year to the entire membership of the Association.

CHANGES IN THE BY-LAWS

Wherever the words 'Committee on Education' appear in the By-Laws, change these to 'Committee on Credentials.'

In Section 8, I, add a new paragraph as follows:

Section 8, I. D. Associates elected prior to January 1, 1947, shall meet the minimum academic standards of Clinical or Technical members and shall have completed the preceptorship outlined in Section 8, II, A-4, by January 1st, 1950. Associates not meeting these requirements at this time shall be listed as subscribers to the Journal.

Section 8, I. E. After January 1, 1947, Associates shall be elected for three year terms only. At the end of three years, an Associate shall be listed as a subscriber to the Journal, unless the minimum qualifications of Clinical or Technical membership have been completed.

Section 8, I. F. Renewal of Associate membership or the extension of the three-year term of Associate membership may be granted only in case of illness or other extenuating circumstances, on a year-to-year basis, at the discretion of the Committee on Credentials.

Consultants to National Society for Crippled Children and Adults, Inc.: It was moved by Baker and seconded by Johnson that Herbert Koepp Baker and Margaret E. Hall be appointed by the Committee on Liaison to act as ASHA consultants to the National Society for Crippled Children and Adults, Inc. during 1949. Motion passed.

Time and Place of 1950 Convention: It was moved by Brown and seconded by Johnson that ASHA meet alone at the Deshler-Wallick Hotel in Columbus, Ohio during October or November of 1950. Motion passed.

Time and Place of 1951 Convention: It was moved by Fairbanks and seconded by Johnson that the Committee on Liaison be empowered to complete arrangements for the 1951 Convention with some association other than the Speech Association of America. Motion passed.

Resolutions: Johnson was appointed to write Resolutions in behalf of the Association, with the exception of the Resolution to the retiring Editor; Baker was appointed to prepare this Resolution.

The meeting was adjourned.

BUSINESS MEETINGS

December 28, 1948, 7:45 p. m.

The meeting was called to order by President Martin F. Palmer.

The minutes of the 1947 meeting were accepted and approved.

Grant Fairbanks, nominated by the Council on a pre-Convention ballot, was elected Editor of the *Journal of Speech and Hearing Disorders* for the unexpired term of two years of Wendell Johnson.

The report of the Secretary-Treasurer and Business Manager of the *Journal*, abstracted orally by George A. Kopp, was accepted and approved.

Council actions pertaining to the report of the Editor of the *Journal* were accepted and approved with one modification. It was moved by Harry S. Wise and seconded by Harriet Green Kopp to amend the motion authorizing the Editor and Business Manager of the *Journal* to begin a policy of accepting advertising in publications of the Association to provide that the *Journal*, when it accepts advertising, print a statement in each issue to the effect that: 'The inclusion of advertising in the *Journal* does not constitute endorsement by ASHA of products advertised.' Motion passed.

Council actions pertaining to changes in the Directory were accepted and approved.

Council actions pertaining to the report of the Committee on Education on new members were accepted and approved.

Council action concerning the framework for membership in ASHA as prepared by the Committee on Education was accepted and adopted.

Council action pertaining to the report of the Foundations Committee was accepted and approved.

The meeting was adjourned.

December 30, 1948, 12:15 p. m.

The meeting was called to order by President Martin F. Palmer.

Council Actions Approved: Council actions of December 28 and 29, summarized by Palmer, were accepted and approved.

Officers of the Association: The members nominated for officers and councilors effective January 1, 1949 were unanimously elected.

Constitutional and By-Law Amendments: Council recommendations of changes in the Constitution and By-Laws were accepted and approved.

Time and Place of 1950 Convention: Council recommendation that ASHA meet alone at the Deshler-Wallick Hotel in Columbus, Ohio during October or November of 1950 was accepted and approved.

Time and Place of 1951 Convention: The Secretary was authorized to change the wording of the action of the Council concerning the time and place of the 1951 Convention to incorporate certain suggestions made by members that the Association sponsor a program in conjunction with the Speech Association of America, and that the major 1951 Convention be held with some medical or other association. Council recommendation that the Committee on Liaison be empowered to complete arrangements for the 1951 Convention as modified was accepted and approved.

Resolutions: Reading of the following resolutions was dispensed with by the chair because of lack of time; it was directed that they be printed in the March issue of the *Journal*.

Resolved: That the American Speech and Hearing Association gratefully acknowledge its abundant debt to its retiring President, Dr. Martin F. Palmer. Over a period of many years he has carried major responsibilities and exercised leadership in promoting the Association's professional growth and refinement. The Association will long continue to reflect the influence of Dr. Palmer's energetic and creative devotion to its obligations and opportunities for ever-expanding public service.

Resolved: That the American Speech and Hearing Association express its gratitude and high regard for the effective execution of the program of the 1948 Convention by the members of the Program Committee under the able and integrative chairmanship of the Association's retiring Vice-President, Dr. Spencer F. Brown.

Resolved: That the American Speech and Hearing Association express its deep gratitude for the generous, earnest, and intelligent efforts of the retiring Editor of the Journal of Speech and Hearing Disorders, *Dr. Wendell Johnson. His development of a scientific and scholarly journal has provided an essential voice for the field of speech and hearing; clinicians, teachers, and those engaged in research have been guided to improved description of their work, and to more effective expression of their ideas; through this dignified influence the Association has gained greatly in prestige.*

Resolved: That the American Speech and Hearing Association acknowledge in a spirit of professional comradeship the cooperation of the Speech Association of America in the successful completion of the 1948 joint Convention of our two organizations. We are particularly appreciative of the graciousness and the labors of Professor James H. McBurney, retiring Vice-President of the Speech Association of America, and of the Reverend Gilbert V. Hartke, Chairman of the Committee on Local Arrangements.

Resolved: That the American Speech and Hearing Association express its most sincere appreciation of the grand hospitality extended to it by the Hotel Statler of Washington D. C.

Resolved: That the American Speech and Hearing Association acknowledge with gratitude the constructive works performed during the past several years by the re-

tiring members of the editorial and business staff of the Journal of Speech and Hearing Disorders: *Louise S. Barchat, Elizabeth Erdice, Mary Edith Fox, Mary Wehe Huber, D. W. Morris, Clarence T. Simon, George S. Stevenson, and Lee Edward Travis.*

Resolved: That the American Speech and Hearing Association express its extremely favorable impression of the Aural Rehabilitation Center, directed by Aram Glorig, M. D., in the Army Medical Center, Washington, D. C., and its appreciation of Dr. Glorig's hospitality in affording the members of the Association an opportunity to visit the Center during the 1948 convention.

New President: The presidential chair was yielded by Martin F. Palmer to the new President, D. W. Morris, who presented a tentative selection of members of various committees, as follows, and charged them with their responsibilities:

STANDING COMMITTEES

Academic and Professional Preparation (2, 1949-1951; 2, 1949-1953; Chairman, 1949-1951)

1. Spencer F. Brown (F or P, Sp), 1949-1951
2. Raymond Carhart (F or P, H), 1949-1953
3. John W. Black (F or R), 1949-1953
4. Virginia S. Sanderson, 1949-1951
5. Martin F. Palmer, Chairman, 1949-1951

Credentials (2, 1949-1951; 2, 1949-1953; Chairman, 1949-1950)

1. Harlan Bloomer (F or P, Sp), 1949-1951
2. Leo G. Doerfler (F or P, H), 1949-1953
3. Gordon Peterson (F or R), 1949-1953
4. Claude E. Kantner, 1949-1951
5. Margaret E. Hall, Chairman, 1949-1950

Ethical Practice (2, 1949-1951; 2, 1949-1953; Chairman, 1949-1952)

1. Kenneth S. Wood (F or P, Sp), 1949-1953
2. William G. Hardy (F or P, H), 1949-1951
3. James F. Curtis (F or R), 1949-1951
4. Hildred Gross, 1949-1953
5. Harold Westlake, Chairman, 1949-1952

Liaison (7 ex-officio)

1. *Martin F. Palmer* (Chm., Acad. & Prof. Prep.), 1949-1951
2. *Margaret E. Hall* (Chm., Credentials), 1949-1950
3. *Harold Westlake* (Chm., Ethical Practice), 1949-1952
4. *M. D. Steer* (Vice-President), 1949
5. *Grant Fairbanks* (Editor, *Journal*), 1949-1950
6. *George A. Kopp* (Secretary), 1949-1950
7. *D. W. Morris* (President), Chairman, 1949

Program (1 year term, Chairman ex-officio)

1. Jack L. Bangs (F or P, Sp)
2. E. Thayer Curry (F or R)
3. Leo G. Doerfler (F or P, H)
4. Hildred Gross
5. Jack Matthews
6. *Henry M. Moser,* (Vice-President-Elect)
7. Charles Van Riper
8. Loretta W. Smith
9. *M. D. Steer* (Vice-President)

Terminology (2, 1949; 2, 1949-1950)

1. Herbert Koepp Baker (F or P, Sp), 1949
2. Hayes A. Newby (F or P, H), 1949-1950
3. William J. Temple (F or R), 1949-1950
4. Samuel D. Robbins, Chairman, 1949

COMMITTEES

Association Honors (3 appointed, Chairman ex-officio)

1. Hildred Schuell
2. Jeanette O. Anderson
3. Wilbur E. Moore
4. *D. W. Morris,* Chairman

Budget (3 ex-officio)

1. *Grant Fairbanks* (Editor, *Journal*)
2. *D. W. Morris* (President)
3. *George A. Kopp* (Secretary-Treasurer), Chairman

Constitutional Revision (3 appointed)

1. Ernest H. Henrikson
2. Mary Wehe Huber
3. Charles R. Strother, Chairman

Exchange of Materials (3 appointed)

1. Darrel J. Mase
2. John N. Clancy
3. Louis M. DiCarlo, Chairman

Foundations (3 appointed; 2 ex-officio)

1. Lou Kennedy
2. Oliver Bloodstein
3. *George A. Kopp* (Secretary-Treasurer)
4. *D. W. Morris* (President)
5. Wendell Johnson, Chairman

Nominations (5 to be elected by mail ballot)

Advisory Committees to Committee on Academic and Professional Preparation:

Advisory on Speech Disorders (6 appointed, 1949; 1 ex-officio)

1. Jon Eisenson
2. E. Robert Harrington
3. Letitia Raubicheck

4. Ruth Beckey Irwin
5. Robert Milisen
6. Charlotte Wells
7. *Spencer F. Brown,* Chairman

Advisory on Hearing Disorders (5 appointed, 1949; 1 ex-officio)

1. Harriet Green Kopp
2. Merle Ansberry
3. Norton Canfield
4. William G. Hardy
5. S. Richard Silverman
6. *Raymond Carhart,* Chairman

Advisory on Research (6 appointed, 1949; 1 ex-officio)

1. Wilbert Pronovost
2. Paul Moore
3. Joseph M. Wepman
4. Grant Fairbanks
5. C. Horton Talley
6. Lee Edward Travis
7. *John W. Black,* Chairman

The meeting was adjourned.

Elections to Membership and Promotions

Acting on the recommendation of the Committee on Education, the following were approved by the Council for the various levels of membership as indicated.

The following was elected to the status of Fellow:

Silverman, S. Richard

The following was elected to the status of Honorary Fellow:

Glorig, Aram

The following were elected to the status of Professional Member:

Allen, Amy V.
Bangs, Jack L.
Baumgarten, Marjorie
Brong, C. Cordelia
Cochran, Marjorie
Edwards, Elsie
Gaeth, John H.
Gormley, Geneva
Hahn, Elise
Johnston, Joseph
Jones, Mamie
Lundin, Ruth
Mosier, Katherine
Mullendore, James
Nystrom, Clarence
Quirk, Mary
Regan, Mary
Spriestersbach, Duane C.
Wolfe, William

The following were elected to the status of Clinical Member:

Amis, Maurine Berzette
Andrews, Benjamin S.
Andrus, Elizabeth P.
Ansher, Norma E.
Avery, Charlotte B.
Barker, Isabel
Baron, Rita
Beatty, Patricia
Bloodstein, Oliver
Bogner, Phyllis
Bradley, Elizabeth
Brown, Frances M.
Buck, McKenzie Wm.
Burger, Hannah J.
Burnett, Lois B.
Coffman, Ruth
Daugherty, L. C.
De Hirsch, Katherine
Douglas, Alice D.
Drakesmith, Dorothy
Eastman, Milton
Epstein, Aubrey
Fergen, Geraldine
Furbee, Catherine
Gaines, Frances P.
Gaskin, Jean Hopson
Gray, Loretta S.
Gutterman, Mae
Hale, Anita Ruth
Hatcher, Caro C.
Haug, Clarence Olaf
Hawk, Elizabeth Ash
Hepler, S. Lois
Holtzman, Paul D.
Horn, Raymond
Horne, L. LeRoy
Hoverston, Gloria
Jones, Morris Val
Kauffman, Ellen
Kessler, Ralph Emerson
Laing, James M.
Lander, Edward King
Lorenzini, August
McKee, Elizabeth
McLaughlin, Florence
Madsen, Ann Marie
Manning, John
Maxwell, Keith Lawrence
Metraux, Ruth W.
Mullikin, Mary C.
Nelson, Max
Parks, Mary Dean
Penn, Jacques
Pepper, Marcella
Pierce, Robert
Pross, Edward L.
Pyle, Dorothy Marion
Ramsay, Lucille Ann
Raymond, Carol
Riley, Mildred
Ruth, Martha
Satorius, Dorothy Jean
Schwartz, Ralph J.
Shank, Kennon H.
Shapiro, Elaine S.
Sharinghousen, Edythe
Smaltz, Janet M.
Sorrenson, Fred S.
Speakman, Julie
Spradling, Sister M. Cyprian
Sutton, Eddie Lee

Tyler, Margaret H.
Van Tine, Ruth H.
Whitaker, John V.
Whitehead, Marilyn
Wier, Vivian Hale
Williams, Marilyn N.
Williams, W. Gloria
Williamson, Doris Bynum
Wilson, Lois
Wilson, Ruby K.
Wischner, Sary K.
Witte, Carol Keating

Extracts from the Report of the Treasurer

Statement of Financial Condition
June 30, 1948

Assets

Cash in Ohio National Bank		$ 4,119.19
Accounts Receivable		407.45
Speech Correction Foundation—		
Petty Cash and Mailing Fund		150.00
Office Equipment	$ 480.44	
Less Estimated Depreciation	66.01	
Office Equipment—Net		414.43
Total Assets		$ 5,091.07

Liabilities

Withholding Income Tax Payable		23.10

Net Worth

American Speech Correction Fund*	$ (514.34)	
Journal of Speech and Hearing Disorders	1, 792.74	
Publications Fund	1, 629.18	
General Fund	2, 160.39	
Total Net Worth		5,057.97
Total Liabilities and Net Worth		$ 5,091.07

Balance Sheet
December 1, 1948

Assets

Cash in National Bank of Detroit		$ 1,916.13
Accounts Receivable		486.86
Speech Correction Foundation Petty Cash Fund		150.00
Equipment	$ 414.43	
Less: Reserve for Depreciation	17.25	397.18
Total Assets		$ 2,950.17

Liabilities

Advances from Members		$ 3.50
Advances from Subscribers		58.80
Witholding Tax Payable		50.39
Total Liabilities		$ 112.69

Net Worth

Journal of Speech and Hearing Disorders Fund	$1, 307.30	
Publications Fund	1, 628.03	
General Fund	1, 074.49	4,009.82
American Speech Correction Foundation Fund*		(1,172.34)
Total Net Worth		$ 2,837.48
Total Liabilities and Net Worth		$ 2,950.17

* (Deficit)

George A. Kopp, *Secretary*

FORMAL CALL FOR PAPERS

American Speech and Hearing Association

ANNUAL CONVENTION — DECEMBER 28-30, 1949

CHICAGO, ILLINOIS

The Program Committee will continue to receive for examination until October 1, abstracts of papers and addresses proposed for a place on the program of the 1949 meeting of the Association. Four general types of material will be considered:

1. Theoretical or experimental papers on speech or hearing disorders.
2. Practical papers on techniques for the rehabilitation of speech or hearing disorders.
3. College, Medical School and University resident and non-resident diagnostic and remedial programs for speech or hearing disorders.
4. National, state, or city programs for the rehabilitation of speech or hearing disorders.

The Committee will operate under the rules set down in the Constitution of the Association.

All abstracts must be received by the Committee by October 1, 1949. In addition to summarizing the paper, each abstract must indicate (a) the time required for presentation, (b) details on the type of visual or audio aids which will be needed, and (c) other requirements. The full name of the professional affiliation of the author should be indicated.

Receipt of an abstract will be taken as evidence that the person submitting it is aware of the following rules governing the conduct of section meetings:

1. All meetings will begin when scheduled.
2. Chairmen will, without exception, hold speakers to time limits as they are set forth in the Program.

The Committee will welcome suggestions from members regarding nonmembers who can contribute significantly to the program. Such recommendations are to be transmitted to the Committee through a Fellow of the Association.

THE PROGRAM COMMITTEE

Jack L. Bangs
E. Thayer Curry
Leo G. Doerfler
Hildred A. Gross
Jack Matthews
Henry M. Moser
Loretta W. Smith
Charles Van Riper
M. D. Steer, *Chairman*
Speech and Hearing Clinic
Purdue University
West Lafayette, Indiana

NOTICE

To Applicants for Membership and to Members Desiring Advancement in Membership

Attention is called to the revisions in committee structure described in detail elsewhere in this issue (see Report of the Convention). The Committee on Education, which formerly received applications for membership and applications for advancement in membership, has been dissolved. In its stead, three committees have been created, of which the one now performing this function of the former Committee on Education is called the Committee on Credentials. Chairman of this committee is Dr. Margaret E. Hall, Bureau of Child Study, 228 N. LaSalle Street, Chicago, Illinois. Inquiries regarding such matters should be addressed to her.

JOURNAL OF SPEECH AND HEARING DISORDERS, 1949, **14**, 93-94

INFORMATION FOR CONTRIBUTORS TO THE JOURNAL OF SPEECH AND HEARING DISORDERS

(Editor's note: The following information is presented for the mutual convenience of Authors and Editorial Staff. Authors are invited to study it with care. The Editor will gladly supply individual copies, together with a mimeographed supplement, *Examples of Manuscript Form*, to any prospective author.)

General Procedures

Manuscripts should be submitted initially to:

Grant Fairbanks, Editor
Journal of Speech and Hearing Disorders
321 Illini Hall
University of Illinois
Urbana, Illinois

Authors who are uncertain as to the suitability of material for publication in the *Journal* are invited to correspond with the Editor before sending the manuscript.

Preliminary reading of the manuscript will be performed by the Editor and/or the Associate Editor responsible for the subject matter area in question. On the basis of this reading the manuscript will either be accepted provisionally, or publication will be declined. In the latter case the manuscript will be returned, if it has been accompanied by a self-addressed, stamped envelope.

A manuscript which has been accepted will be placed in the hands of the appropriate Associate Editor who will correspond with the author about any changes which he deems advisable. In this connection, authors are assured that all major revisions will be referred to them for approval. When, in the opinion of the Associate Editor, the manuscript is ready for publication, he will forward it to the Editor for final review and acceptance. The Editor will mark it for printing and submit it to the printer.

As a final step, the author will have opportunity to read galley proof of his article, which he will receive from the printer together with the original manuscript. He is expected to return the corrected proof to the Editor within one week.

Preparation of Manuscripts

General Form. Submit the manuscript in the form of printer's copy. Furnish one double-spaced original copy of the basic text on 8½ × 11 bond paper, using one side only, employing generous margins, and numbering the pages consecutively in the upper right-hand corners. At the top of the first page center the title in capitals, with the name of the author or authors immediately below in capitals and lower case. Center all section headings (e. g., Procedure, Results), indicating levels of subordination as follows: First level in capitals; second level in capitals and lower case underlined; third level in capitals and lower case. (Such section headings are almost always desirable; provide them in sufficient number to insure clarity without being excessively frequent.) Enclose phonetic symbols in square brackets; underline material to be italicized; use single quotation marks, except in case of quotation within quotation; present each extended quotation without quotation marks and as a separate indented paragraph, its left margin in alignment with the conventional paragraph indentation. Spell out one-digit integers; use Arabic characters for all other numbers, except at the beginnings of sentences. Keep the total length of the manuscript within reasonable limits; publication of long manuscripts will necessarily be delayed. The present policy of the *Journal* is to publish in English only.

References. Arrange references in alphabetical order of author surname, numbered consecutively. Within the text refer to these references by numbers enclosed in parentheses, not by footnotes. Submit the list of references on a separate sheet as the last numbered page of the manuscript. Follow the form used in any recent issue of the *Journal* in preparing this list of references.

Footnotes. In the text make reference to footnotes by means of numerical superscripts, corresponding to consecutive footnote numbers. Set off copy for each footnote by solid lines above and below, and introduce it into the manuscript so that it appears as an interpolation within the text (not at the bottom of the page), immediately after the line of text in which superscript reference is made. Single-space footnote copy.

Tables. Prepare each table on an in-

dividual page regardless of length. Place it within the manuscript so that it immediately precedes that page of the text upon which first reference to that table is made. Give each table a number and a title, prepared at the top of the table in a form exemplified in any recent issue of the *Journal*. The title should provide sufficient information to make the table understandable without reference to the accompanying text; at the same time, however, reference should be made to each table within the text. Show column headings within the table in capitals and lower case underlined. Avoid vertical division lines.

Figures. Furnish one large glossy print of each photograph submitted for half-tone reproduction. Prepare graphs and diagrams with black India ink on white paper of good grade, or on coordinate paper with pale blue lines. Use black India ink for all labels, and make them large enough to be readable when reduced. The size of copy for figures is immaterial, although large sizes are preferable. Number each figure for identification on the back, not within the figure; present the series of figures together and separate from the basic text. Prepare a numbered legend for each figure (see any recent issue of the *Journal* for sample copy). Present copy for all legends in consecutive order on a single, separate legend page at the end of the manuscript. Each legend should be sufficiently complete that the figure may be understood without the text; yet each figure should be mentioned within the text.

Author Identification. A study of the *Journal* will show the manner of identifying the author in a brief unnumbered footnote on the first page of the printed article. Supply copy for this footnote, or information from which copy may be prepared, on a separate page accompanying the manuscript. State full name, highest degree with institution and year, formal title of present position, formal name of institution where affiliated, and other pertinent information. If no institutional affiliation exists, supply street address. If the manuscript represents a thesis or an otherwise supervised activity, this fact should be acknowledged unless the supervisor appears as co-author. If the manuscript is an adaptation of a public speech this fact should be noted by date, place, and group to which presented.

Costs

It is the present policy of the *Journal* to print all standard materials at no expense to the author. Reprints are purchased by the author directly from the printer, and are ordered on a special blank supplied to the author at the time galley proofs are sent for correction.

Special costs, described below, are borne by the author and not by the *Journal*. The author is billed for such costs at the time of galley proof and makes payment to the Business Manager. Preliminary estimates of such costs are made by the Editor at the time of initial reading of the manuscript. If they are above average, the author is informed and his consent to payment secured before proceeding further. Costs chargeable to the author are incurred in the following instances:

Tables. The rate for tabular work is 41 cents per vertical inch as printed.

Figures. The charge for reproducing a photograph or drawing up to six square inches in printed size is $1.50; above that area the additional charge is 12 cents per square inch.

Revisions of Galley Proof. Except in cases of printer's errors, such costs are charged to the author on a labor cost basis. This item can be very expensive; authors are cautioned to re-write in manuscript, not in galley.

JOURNAL OF SPEECH AND HEARING DISORDERS, 1949, **14**, 95-96

EXTRACTS FROM 1948 REPORTS OF SAA STUDY COMMITTEES

From Report of the Study Committee on Problems in Speech Correction and Speech Pathology

It is suggested that SAA might offer short courses in elementary speech correction techniques for grade school and high school teachers who are not especially trained in this area. Such short courses might be similar to those already included on the ASHA programs on various speech pathologies but should, of course, be on a much more immediately practical level. They would be particularly appropriate during those years when the two associations do not meet together.

Elvena Miller
Wendell Johnson
Claude E. Kantner, Chairman

From Report of the Study Committee on Problems in Audiology

The Committee has conferred and corresponded throughout 1948. Its members have discussed its problems with many interested individuals, and with the officers of other associations. It has appeared that the chief function of the Committee was to evaluate the possibilities and responsibilities for participation in the area of hearing disorders on the part of the SAA.

The following observations are offered:

1. The interests of a number of professional groups converge upon this area. Among these are medicine, engineering, physics, and psychology, in addition to our own. A number of organizations, such as the Veterans Administration, the armed services, the Public Health Service, certain state agencies and institutions, have important interests also. Hearing aid manufacturers, furthermore, present a powerful commercial influence.

2. With all of these forces the situation is delicate, characterized by competition and controversy. There are some indications of improvement, particularly since the war, but the lines of leadership and associational sponsorship are not altogether clear.

3. Among the speech groups, however, the American Speech and Hearing Association (formerly the American Speech Correction Association) has an historical interest in this area. The growth of work in hearing among its membership has been observed for many years, and has recently been reflected in the change of name. Officers of ASHA inform the Committee that its membership policies and requirements are being altered to provide an even more fruitful associational outlet for specialists in hearing. The Committee feels that ASHA may be relied upon for continued study and wise action in the area.

The Committee draws certain conclusions from the above findings and wishes to make the following recommendations:

1. That the Association acknowledge the leadership of ASHA in the area of hearing disorders, and urge that association to continue its activities vigorously.

2. That the Association view its natural interests in the problem as being best furthered in cooperation with ASHA after the manner of the traditional cooperation in the field of speech disorders.

3. That the Association offer to collaborate with ASHA in all feasible ways, particularly in joint sponsorship of convention programs, and by encouragement of publications on hearing in *QJS* and *SM*.

4. That the Committee on Audiology be discontinued.

Raymond Carhart
Darrel Mase
Grant Fairbanks, Chairman

From Report of the Study Committee on Problems in Speech Science

During 1948 an investigation was initiated to reveal the current status of speech science in the United States. Speech science was defined as that area within the speech field which is concerned with analysis and measurement of the physical, physiological, anatomical and psychological variables involved in the production of speech.

Preliminary planning for this study was conducted by systematic inter-office correspondence. The Committee was of the opinion that effort should be directed toward answering the following questions: (1) To what extent is formal speech

science instruction included in the speech curriculum? (2) To what extent is speech science instruction included in other speech courses? (3) To what extent have speech science laboratories been developed in academic institutions? (4) To what extent have speech science research findings been included in speech textbooks? (5) To what extent have opportunities for graduate training in speech science been developed? It was recognized that inherent in each of the above are numerous important related questions which should be explored to secure satisfactory information.

To expedite this project, a brief questionnaire was issued to secure some general information concerning speech science and to permit the various institutions to express a decision concerning cooperation on a more extensive survey. The questionnaire was sent to the 602 schools (Junior Colleges, Colleges, Universities, Theological and Private Institutions) listed in the Geographical Index of the SAA Directory. Returns were received from 48.7% of the schools and 84% of these returns indicated a willingness to fill out an extensive questionnaire (11.2% did not reply to the question). A summary of the findings of the preliminary investigation follows:

1. The replies to the question, 'How many schools offer instruction in speech science at the (a) undergraduate, (b) graduate, (c) both undergraduate and graduate levels?' are still being analyzed.

2. It was found that 118 schools, representing 40.4% of the returns, report that no course in speech science is taught, but that the subject matter is included in other courses.

3. It was found that 54 schools, representing 18.5% of the returns, report that no course in speech science is taught and that no significant inclusion of speech science materials appears in their other courses.

4. The replies to the question, 'How many schools offer (a) major, (b) minor in speech science at the undergraduate level?' are still being analyzed.

5. It was found that 189 schools, representing 64.7% of the returns, do not offer a major or minor in speech science at the undergraduate level.

6. It was found that 58 schools, representing 19.9% of the returns, accept theses at the Master's level; 17 schools, representing 5.8% of the returns, accept theses at the Doctoral level.

7. It was found that 144 schools, representing 49.3% of the returns, do not have graduate dissertations written in speech science.

8. It was found that 102 schools, representing 34.9% of the returns, maintain laboratory facilities for research in speech science.

9. It was found that 149 schools, representing 51% of the returns, do not have laboratory facilities available for research in speech science.

10. It was found that 90 schools, representing 64.7% of the returns, have equipment available for demonstration of the physical characteristics of speech.

11. It was found that 80 schools, representing 27.4% of the returns, do not have equipment to demonstrate the physical characteristics of speech.

12. It was found that 246 schools, or 84.2% of the returns, would be willing to fill out a more extensive questionnaire. Only 14 schools, or 4.8% of the returns, indicated unwillingness to fill out an extensive questionnaire; 32 schools (11%) did not reply to this item.

The Committee on Speech Science offers the following recommendations for the year 1949:

1. The Committee on Speech Science should be continued;

2. The Committee personnel should be retained and a representative from the Eastern states should be added;

3. The Committee chairmanship should be rotated to insure a continuation of vigorous administrative effort;

4. The Committee should be authorized to continue the project described in this report.

JOHN BLACK
JOHN G. SNIDECOR
M. D. STEER, Chairman